THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

VOL. CXXIII.—No. 4154 SEPTEMBER 15, 1922.

TRADE AND UNEMPLOYMENT.

DURING the past month or two there was a general consensus of opinion that the bottom of the depression had been reached, and that although the improvement might be slow, it was nevertheless confidently expected. It was generally understood that the Government officially shared this view, and it was stated that the Ministry of Labour, which was in negotiation with certain employers' organisations concerning wage matters, was credited with the belief that during the next two years, at any rate, there would be no material alteration in the existing level of the prices of food and clothing. The general assumption was, therefore, that the cost of living for the next two years would not be lower than it was then, and that there must be a check to the movement for lower wages.

During the last week or two it has been obvious that something in the calculations has again gone astray. We read that "employers and labour leaders alike do not attempt to disguise their convictions that another hard winter with much unemployment is ahead of us." For some time trade was enjoying conditions which had all the indications of a permanent revival of trade, but it is now becoming apparent that there has been a falling off in interest in business and orders during the last few months. To a certain extent it is true that this is a period of the year when most people are more concerned about holidays than business, and it is possible that conditions may assume a better appearance by the end of the present month. It would be folly, however, to deny that a certain amount of anxiety is being felt by some industries. If this prophecy should prove to be correct it again seems to show that our basis of prices is wrong, and that we are not yet able to stabilise at the present level. In this tremendous problem it is evident that the ideas of the public are often affected by its desires; they return to the same position again and again, and each time it seems to be assumed that the conditions are different. We may believe that trade has had a slight temporary revival before setting in for another gradual decline; others may believe that trade was making a slow recovery, consequently the present falling off in business can be regarded as a temporary suspension of the process of recovery. It will be noted that the two opinions are diametrically opposed; the price movements are in opposite directions, and the final difference between them is bound to be very great. This is briefly a summary of the position as it appears to us—and it is a position which will probably occur again before we are finally back to an established basis, when work will be plentiful and steady. It is impossible to suggest that both these points of view could be based upon sound economic reasons; it is more likely that most opinions upon these matters are psychological, and are peculiar to the individual who really make his choice, as he imagines, between the optimistic and pessimistic outlooks. No amount of argument in these matters would be convincing—even if it could do any good—and we have always hesitated about entering into a region where the only argument is an assertion which nobody is under any obligation to accept unless he happens to agree with it.

Apart from the arrangements which have to be entered into with labour, we have frequently stated that opinions upon trade prospects can have little influence upon a problem which will settle itself of its own volition. It is certain that some day we shall strike a level of prices when trade will be good and less liable to fluctuation, but until then the most we can hope for is that everyone will not attempt to be too prudent by thinking that they will be rewarded for their patience if they put off their purchasing long enough to be sure that prices have reached the bottom. This is a psychological attitude which must be recognised; it affects the buying on a dear market as well as the selling on a falling market, but there is a tendency to exaggerate the importance of an element which is more of a symptom than the cause of the depression. A certain amount of business will always be transacted, and it is owing to this fact that prices can be lowered gradually, otherwise they would have fallen much more rapidly. It would almost appear that there is some economic force at work beyond the control of the individual, which is only another form of saying that we should have had good trade long ago if this were merely the result of confidence and a determination to stop the downward trend of prices. If prices are too high apparently no amount of confidence will prevent them from falling to their economic level; if, on the other hand, prices are too low it seems that they rise to their right level regardless of any feeling of confidence. If a further period of bad trade is ahead of us it seems we must reluctantly accept the fact that unemployment, inevitably and unfortunately, must follow. This is hardly the time and place to discuss whether industry moves in a vicious circle of shorter hours, higher wages, and less production, or whether the workers themselves lose more as consumers than they can gain as producers. These ideas are either plausible or fallacious according as our minds lean to social reform or political economy. We may be conscious of social evils and sincerely anxious to remove them, but we do not believe that the cold facts of economics are incompatible with schemes for social reorganisation.

It is very evident that we have a great deal to learn yet about the relationship of prices to wages, and their effect upon good trade or unemployment. The extraordinary fluctuations in prices and trade during the past few years have intensified the problems of industry and employment, and beyond the general agreement deploring the evils and shortcomings of the present system, we have seen no solution put forward which was not of a temporary nature, nor have we any means of proving in a transitional period what should be acceptable to the workers. We are slowly gathering, for example, that the prospect of a trade revival is not wholly a matter of faith, and our financial experts are not quite of one mind on the thorny question of "deflation." To the plain man deflation seems to mean falling prices, bad trade, and unemployment, and if he is to submit to all these things he would like to be convinced of their necessity. It is at this stage where there is general disagreement, where there are scores of different opinions from different classes who, in their turn, nourish fallacies of their own. Perhaps the truth is that we are all trying to judge results when the broken ends of industry have not been given sufficient time to piece together. The problem becomes further complicated when the opinions of employers and employed are stated separately and are probably exaggerated, whereas, instead of generalisations, we are in need of considered opinions based upon knowledge, with a width of detachment such as we are not accustomed to look for from the spokesmen of industry.

We have tried a system of controls and we have seen the evils; we have been trying all along to force a trade revival and put an end to unemployment, but without avail. Neither has sympathy been lacking; an excess of sentiment and a deficiency of thought have failed to find any way of dealing with unemployment that was not both extravagantly costly and miserably ineffective. We have seen fallacy after fallacy exposed, and it is only a few weeks ago that Mr. Thomas dealt with a fallacy very dear to many workers when he denied that over-production is the cause of unemployment. This idea comes very naturally to the worker who sees that a particular job could be divided among more workers if each man did less of it. We read and hear a great deal about increased production, shorter hours, and higher wages; yet we never seem to get any nearer to an understanding about these demands which seem to be incompatible, and—what seems the most important point—their relationship to good trade. It comes as no surprise, therefore, to find the immense diversity of opinion which existed on the subject at the recent discussions of the Liberal Summer School at Oxford. One of the lecturers stated that "so precarious was our position as the supplier of manufactured goods to the world becoming, that no industrial policy could easily maintain, far less raise, the existing standard of living." It is unfortunate in our present state of civilisation that a solution to these problems can only be evolved slowly and with suffering to the whole country.

NOTES.

Unification and Registration. WITH the recent election of the new Council of the Royal Institute of British Architects and the advent of the summer holidays, discussion on the policy of the Institute in regard to unification and registration of the profession ceased for the time being, much to the relief, no doubt, of many members of the Institute who did not trouble to record their votes for the new Council. But the time is approaching when, we hope, the policy of the Institute will not only be indicated but also the progress made in carrying that policy into effect. It will be remembered that prior to the election of the new Council a Unification and Registration Committee was in being, but that it had not finished its labours, and therefore had not reported, and while we were well aware of the very strong and, no doubt, perfectly sincere opposition to the avowed unification and registration policy of the Institute, we were of opinion, in common with many other members of the Institute, that the reasonable and proper course to pursue was to let the representative Unification and Registration Committee finish its work and submit its proposals, which could then have been voted upon. The election, however, took place in the absence of this report, and a Council opposed to the unification and registration policy of the Institute was elected.

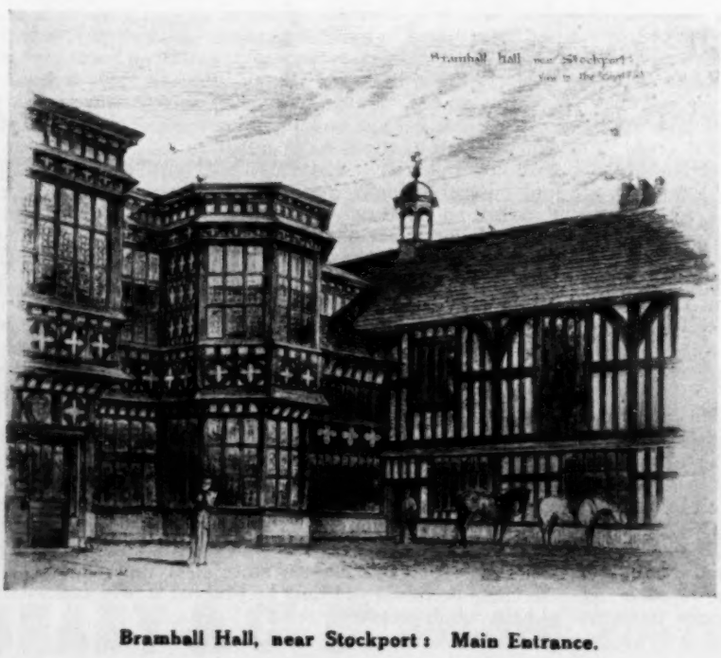
The New Policy. AT its meeting on July 3, the new Council passed a resolution recording its belief that the scheme of the Unification and Registration Committee was "contrary to the best interests of the public, of architectural education and practice, and the Royal Institute of British Architects in particular," and that the Committee should be dissolved. It also resolved that each member of the Committee be thanked for his services and his appointment cancelled, and that a Committee be appointed to draft a Registration Bill with a view to its being deposited in November. We do not know what steps have been taken in furtherance of this object, but we do know that one of the societies allied to the Institute takes the gravest objection to such parts of the resolutions of July 3 as concern the relations of the Royal Institute with this and other allied societies, and with the independent bodies and persons called into association by the Royal Institute, in the matter of the "Committee representative of the whole profession" set up, at the invitation of the Royal Institute, for the purpose of exploring the practicability of the unification and registration of the profession.

Some Objections THE grounds of objection of this allied Society to the resolutions of the new Council of the R.I.B.A. are shortly (*a*) withdrawing from and dissolving the Unification Committee while it was still in the midst of its deliberations and had yet to make its report upon a matter of vital interest to the whole profession; and (*b*) taking, and publishing this unwarrantable and unprecedented step without consultation with the bodies and parties concerned, and in total disregard both of their wishes and of the trouble and expense incurred by them on the strength of their confidence in the good faith of the Royal Institute. We understand that co-operation between this Society and the R.I.B.A. will, in future, pending future developments, be restricted solely to those matters of routine necessary to "the mechanical conduct of the affairs of the Federation." The issue is an unfortunate one, but is it not strange that in the cause of unity, which we all so much desire, such disunion should be possible?

Bench End, Ufford Church.

An Exhibition of British Architecture. WE are glad to note that the Royal Institute of British Architects has made arrangements for an exhibition of contemporary British architecture to be held in the Galleries of the Institute, No. 9, Conduit-street, W., from November 1 to December 9. We give particulars of these arrangements on p. 370, from which it will be realised that with the support of the profession, which we have no doubt will be forthcoming, an opportunity is afforded for the bringing together of a representative collection of modern work which should be equal to, if not better than, the exhibition of American work held in the same galleries last year. The success of the American exhibition should stimulate British architects to take an active interest in the forthcoming exhibition of British work, and we hope the efforts of the Institute to get together the best works of British architects will be heartily supported and that a truly representative collection will be the result.

By-laws and Bellingham. OUR illustrations of the L.C.C. Estate at Bellingham not only serve to show what can be done to make suburbs pleasant places to live in, but they remind us forcibly of the by-law incubus under which the country still labours, although under a temporary narcotic known as "relaxation." It is almost incredible that an estate such as Bellingham, representing an enormous advance in housing generally, should yet be ruled out under the by-laws. It illustrates not only that the by-laws contain all sorts of unnecessary requirements,



Bramhall Hall, near Stockport: Main Entrance.

but it is also a reminder that none of the by-laws can deal with the greatest essential of all. The Engineering and Architectural Section at the Royal Sanitary Institute's annual congress dealt at considerable length with the by-law problem, showing that those most directly concerned realise the necessity of dealing seriously with this antiquated obstacle to building. The Minister of Health's new circular, printed on page 350 in our issue of Sept. 8th, is timely and welcome, and will, we hope, be acted upon by every local authority concerned. The removal of obstacles is, however, not sufficient; if the by-laws are to be made thoroughly sound and worthy of respect, they can no longer complacently disregard the lighting of houses and the value of sunlight. If there is one point upon which the whole medical profession, throughout the world, is united, it is upon the value of sunlight as a protection from disease, and common sense and personal experience are at one with the doctors. This is not a passing fad, and it must be recognised in our by-laws dealing with public health. We appeal, therefore, to the local authorities to see to it that their by-laws are sound, elastic, and up-to-date, and to the Minister of Health to do his part in giving the local authorities power to insist upon an adequate provision of daylight, giving special consideration to the backs of new cottages. In overlooking this we have registered our worst failure in the past.

The Revision of By-laws.

THE difficulties of the war period have had a useful effect in emphasising the need for the revision of building by-laws, and the latest official pronouncement on the subject should bring about some definite improvements. The retention of by-laws which hinder private enterprise, and which are not really needed for safety or sanitation, ought now to become a thing of the past. The Housing, Town-Planning, &c., Act of 1919 did something to afford temporary relief, but did not apply to commercial or industrial buildings. An immediate consideration of all building by-laws is now called for, and the Ministry of Health suggest that they should come into review at even lesser intervals than every ten years. The law of demand and supply brought into existence the speculative builder, who has been much abused in the past, though he made his profits by supplying a public need. Unfortunately for architects the houses erected all over the country by speculative builders have been taken as evidence of the architectural ability of the profession, who have had comparatively little to do with them.

The Disposals Board's Methods.

IF the allegations of Mr. Donald (of Messrs. Rownson, Drew & Clydesdale) are true, we have definite grounds for asking an explanation of the doings of the Disposals Board. It would seem that the Board sold metal for less than the amount offered by Mr. Donald's firm, and yet, he points out, the cost of the Disposals Board to the country is nearly one and a-half millions for the current year. *The Times* pertinently suggests a doubt whether public opinion will be satisfied unless an inquiry is held.

Bramhall Hall: South End of Terrace Front.

Housing Data.

SOME reliable data should be obtainable from the forthcoming Census Reports in regard to housing conditions. We are to have a record of (1) undivided private houses; (2) structurally divided houses; (3) blocks of flats, tenements, &c. Then we are to have further details as to the kind of occupation and number of people in respect of rooms occupied, the total dwellings occupied, the total rooms occupied, the total families, and the total persons. There has been great confliction in statements as to the number of houses wanted. Let us hope that some definite knowledge may be forthcoming, and that it will not be too long delayed.

Bench End, Ufford Church.

The Society of Mural Decorators.

THE work of this excellent Society goes on in quiet ways, and we are glad to hear that the recent exhibition of members' works which was held recently at the Brighton Public Arts Gallery was successful. Though the holding of exhibitions has never been the declared object of the Society, when such opportunity occurs it takes advantage of it, and the Corporation of Brighton, having invited the Society to hold an exhibition, the members interested themselves to secure that it should be representative. Much interchange of knowledge on the technical methods of wall painting in fresco and tempera has been effected through meetings held at the houses or studios of the members, at which discussions take place; the object being always the pooling of the knowledge and experience of the members, so that each may be enabled to do better work. At a time when there is much neglect of sound methods such an aim is important.

Bench Ends in Ufford Church.

THE Parish Church at Ufford, in Northamptonshire, is of interest from the fact that nearly all the poppy-heads of the benches bear a representation of the human face. Some are repulsive, and are said to portray the seven deadly sins, others are more or less pleasing, and may be taken to represent the graces. The two photographs reproduced on these pages are typical examples. The whole collection is somewhat unique in character, and, judging from some mutilated and time-worn examples in the side aisles, has existed for five or six centuries.

GENERAL NEWS.

Professional Announcement.

A partnership has been entered into by Messrs. A. G. Heiton and J. S. McKay, the name of the firm being Heiton & McKay. Address: 72, George-street, Perth.

Correction.

In our note on the York Glass in last week's issue, the second portion of the sentence, beginning "In the repairs necessary," &c., instead of "or that the glazing pieces," it should read "and that the glazing pieces," &c.—"or" being a misprint for "and."

Surveyor's Estate.

Mr. William Windsor, of 24, Atwood-road, Didsbury, quantity surveyor, left estate value £8,363.

Old Roman Wall.

Excavations in Aldersgate-street for a new building have laid bare a large portion of the Roman Wall. At this point the wall turned to the north-east, and the remains of a bastion were also found.

Obituary.

The death has occurred of Mr. H. Higginson, aged 60, a well-known Carlisle architect. A native of Preston, he went to Carlisle in 1882 as architectural assistant to the gas manager of the local corporation, and subsequently began business on his own behalf.

New Market Place at Nelson, South Wales.

Mr. Gabe Jones, of Hengoed, is the architect of a market place which is being erected at Nelson, South Wales, by the local branch of the National Farmers' Union. Messrs. Enoch Williams & Sons, Dowlais, are the contractors, and the work is being carried out at a cost of over £1,000.

Visit to Westminster Hall.

At the invitation of Sir Frank Baines, of H.M. Office of Works, the Art Standing Committee of the R.I.B.A. have arranged a visit to Westminster Hall, to inspect the famous roof, on Saturday, October 14, 1922, at 3 p.m. The work on the roof is now completed, the scaffolding will be removed shortly, and an opportunity for examining the work is not likely to occur again for many years. Members and their friends who wish to take part in this visit should apply to the Secretary, R.I.B.A., by whom tickets will be supplied.

A.A. Excursion to Holland.

The following is the programme of the proposed visit of the Architectural Association to Holland on Friday next, September 22:—

Friday, Sept. 22.—Leave Victoria, 5.45 p.m., for Gravesend; Batavia Boat to Rotterdam.
Saturday, Sept. 23.—Arrive Rotterdam about 8 a.m.; train to Amsterdam, 9.41 a.m.; 1.30 p.m., visit Housing Scheme.
Sunday, Sept. 24.—Morning, Old Amsterdam; afternoon, Housing Schemes.
Monday, Sept. 25.—Haarlem, whole day.
Tuesday, Sept. 26.—Delft, whole day.
Wednesday, Sept. 27.—Utrecht, whole day.
Thursday, Sept. 28.—Trip to Honnickendam, Edam and Volendam, whole day.
Friday, Sept. 29.—Alkmaar, whole day.
Saturday, Sept. 30.—Train to Rotterdam; leave Rotterdam, Boompjes Quay, by Batavia Boat, 7 p.m.

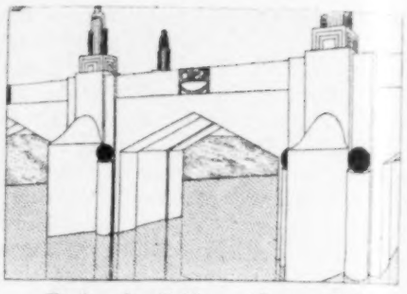
The time of trains will be announced in Amsterdam. The programme has been arranged to allow ample time for sketching, &c. Passports will be required, viséd by the Dutch Consulate.

The Architects' and Surveyors' Assistants' Professional Union.

We are advised by Mr. W. H. Jackson that a visit has been arranged by the Metropolitan Branch of the Architects' and Surveyors' Assistants' Professional Union to the J. B. White & Bros.' Works of the Associated Portland Cement Manufacturers, Ltd., at Swanscombe, Kent, on Saturday, September 23. A special saloon has been reserved for the party on the 2.10 p.m. train from Charing Cross, to which station they will return soon after 9 p.m. A thorough inspection under experienced guides will be made of all the interesting processes of cement manufacture, and tea will be provided by the A.P.C.M. In order that the necessary arrangements may be made, those who wish to be present should notify Mr. J. A. Gould, A.S.A.P.U., 36, Victoria-street, S.W. 1, by September 18. Non-members of the Union are specially invited to be present, and advance copies of a descriptive paper may be had on application to Mr. Gould. The inclusive cost of the trip is 3s. 3d.

On Saturday last the members of the Hants and Dorset (W. 16) Branch of this Union, together with their ladies and friends, held an "At Home" and also made a tour of Winchester Cathedral. The party assembled outside the Cathedral at 3 p.m., and under the guidance of Mr. Elkins, the verger, proceeded through the building, the many phases in its history and construction being explained. Tea was partaken of at Ye Olde Round Table Tea Shoppe, after which Mr. C. MacLachlan, A.R.I.B.A., Chairman of the Executive Council, addressed the gathering. The party subsequently continued their tour of the Cathedral

Bramhall Hall: North End of Terrace Front.



Design for Bridge. (*See p.* 368.)

COMPETITION NEWS.

West Cliff Improvement Scheme, Ramsgate.

Twenty-eight sets of plans for developing a large area of land acquired by the Ramsgate Council on the western cliff were submitted in competition for the prizes, offered by the council, and the award of the adjudicator, Professor S. D. Adshead, is as follows:—

1st (£300), Messrs. W. Harding Thompson & P. D. Hepworth, Verulam-buildings, Gray's Inn-road, London; 2nd (£200), Mr. G. T. Morris, 37, Chancery-lane, London; 3rd (£100), Messrs. Franklin & Deacon, 33, King-street, Luton, Beds.

Chicago.

The *Chicago Tribune* proposes to erect a new home which it hopes "to make a monument of surpassing beauty," and is offering 100,000 dollars in prizes to architects for designs. Drawings must be submitted between then and November 1, 1922. Further information from the *Chicago Tribune*, 5, Rue Lamartine, Paris, France.

Newcastle Baths and Public Hall.

FOR THE NEWCASTLE CORPORATION.—Designs for a general scheme of baths and a public hall, on the site of the present Northumberland Baths, at an approximate cost of £200,000. It is suggested that the premiums be £750, £250 and £100 respectively.

Birkenhead War Memorial.

FOR THE BIRKENHEAD WAR MEMORIAL COMMITTEE.—Designs for memorial at a cost not exceeding £4,000. (See advertisement this week.)

Auckland War Memorial.

The Secretary, R.I.B.A., has received a cable from the promoters of the Auckland War Memorial Competition, stating that the plans of competitors from the United Kingdom have been received, and that the award is expected at the end of September.

St. Bartholomew's Hospital.

It is stated that the rebuilding of St. Bartholomew's Hospital may be discussed by the General Court of Governors next year. A resolution has been submitted by the Scientific Sub-Committee appointed in connection with the organisation of the celebration next June, the eight-hundredth anniversary of the founding of St. Bartholomew's Hospital by Rahere. It proposes that a competition be held, under the direction of the President of the Royal Institute of British Architects, to provide plans for rebuilding the hospital; and that a sum of money, not exceeding £1,000, be allocated for the purpose of providing prizes.

Other Competitions.

Other competitions still open include the following (the dates given are, first the sending in date, and second the issue of *The Builder* in which full particulars were given): Antwerp Lay-out (Sept. 29, July 14); Colombo Town Hall (Nov. 1, July 14); Labour Saving Bungalow (Nov. 1, Aug. 7.); Chelsea Hospital (Sept. 16, Aug 4).

CORRESPONDENCE.

The Planning of Cities.

SIR,—I was interested to read Mr. G. R. Stirling Taylor's article on "The Planning of Cities" in the issue of the *Builder* of September 1, but I feel that Mr. Taylor's criticisms of modern town-planners are far from correct. He claims that modern men only imagine they are original because they have forgotten most of architectural history, and a great part of its best traditions.

One of the first principles of town-planning education is to impart a knowledge and appreciation of the planning of towns from the earliest Egyptian, Assyrian, Greek and Roman examples to the most recent of English, German and American works, and to realise the lessons to be learnt from this historic data. I am sure town-planners are quite conversant with the examples Mr. Taylor mentions, and very many more.

Another axiom of town-planners is, "Think in terms of sites rather than roads." Give due thought to questions of easy access, traffic

considerations, and the human interests of the development." To imagine that the true function of roads is not realised, and that town planning consists in merely a thoughtless extension of present roads, is a fallacy.

We all deplore the monotony of the never-ending miles of suburban development, and countless other evils, through the lack of town planning in the past. To prevent the continuation of these evils is the object of compulsory town planning throughout the country, and it is in this respect that planners, to quote Mr. Taylor, "imagine themselves one of the latest expressions of modern thought."

R. B. WALKER.

London.

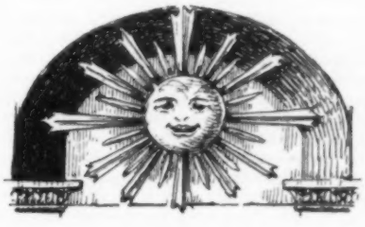
Architectural Education.

SIR,—Referring to the recent discussion on architectural education, I am a strong supporter of the "articles" system, in that it produces an intelligent architect, well versed in modern economic and commercial designing. On such an occasion when a large and impressive public building is proposed to be erected, in every case we have an open competition, and if competitors are turned down for lack of designing, there

is no harm done to the community or anybody concerned. It really comes to this: that no architect can force a design on the public, nor can he build unless the design satisfies his client, and even where an architect brings out a good sound architectural design, in nine cases out of ten his client will turn it down, inasmuch that he will not pay for matter which will not serve his commercial ends.

This country to-day is crying out for practical architects who can design on modern lines, who can design a building on economic and useful lines. Again, in nine cases out of ten, we have such buildings to design, and the odd chance of a town hall or architectural edifice can be tackled by such men who specialise in artistic design.

I think we are practically the only country where an architect is required to master so varied a course of subjects. It is where this country has for all time been at fault, as the average Britisher practices every known craft and ultimately is sure of nothing at all. To tackle one subject well is to be a master of one's profession, and the examinations as set down by the



R.I.B.A. do not give fair play to an articled pupil. They expect in so short a time what it is impossible to produce, and modern building, with its scientific modern principles, gives no time for the minute study of doorways and pretty mouldings, &c., which our forefathers so revelled in.

The articled pupil is a practical proposition, and a man who is going to erect hundreds of buildings to suit the modern commercial world, and who is going to rebuild the world or part affected by the late war.

In the majority of cases a man between twenty and twenty-five, brought up under articles, is by far the more clever and up-to-date all-round practical architect than is ever the case with a student of a University. The former is the man for whom the public are calling, and yet because a University man can dazzle the world with a majestic design for an art gallery or world centre, approached by many thousands of steps in all directions and descending to the water edge of a huge lake (and the whole costing many millions which modern exchequers could never produce), he can thus obtain his degree against the student who, though a thoroughly trained architect, has not developed that transcendently glorious conception of design which is practically the only sure point on the part of the University man. To sum up briefly, he is barred recognition because he has not had the training in design of a University student, and here the latter can fully qualify, having been exempted in various subjects, and can turn out into the world fully armed to fight against the very existence of the office-trained practical man.

To quote the Intermediate Examinations, there are many students, who, given reasonable time, could efficiently design a feature equal to any University man. Because one is less rapid in design than another, it does not mean for a moment to say that he is no good as an architect. It is not fair to so judge him. I sincerely trust that matters may be adjusted and given careful consideration, because, financially, architectural

education is a large item, and it does not seem fair that students should be tossed about unmercifully, and have to bear the hardships consequent on an overcrowded profession. They should be advised in the first place as to their efficiency or their prospects, instead of being treated as school children until thirty years of age. I should like to see genuine fair play. Many of the powers who enforce these stringent examinations entered the profession through this side door or even earlier still through the large door with no examinations as barriers at all.

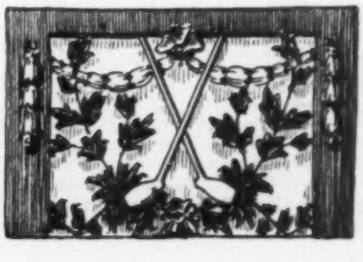
"FAIR PLAY."

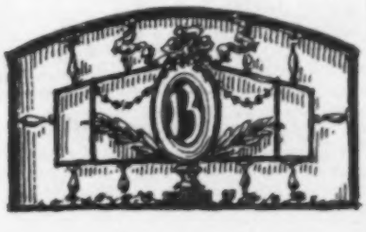
Examples of Iron Grilles.

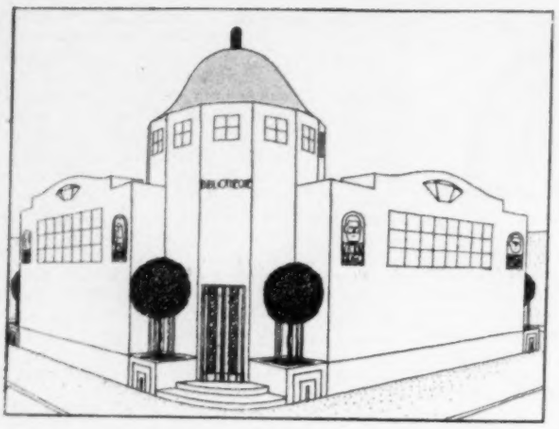
SIR,—The accompanying sketches were made during a recent visit to Aix-la-Chapelle and represent a few examples of iron grilles, &c., in the overdoor and fan lights of some of the seventeenth and eighteenth century houses in an old quarter of the city. These houses are, I understand, about to be demolished to make room for a new housing scheme. Some of the panels are apparently emblematical of the trades carried on by the original occupants.

JONATHAN BINES.

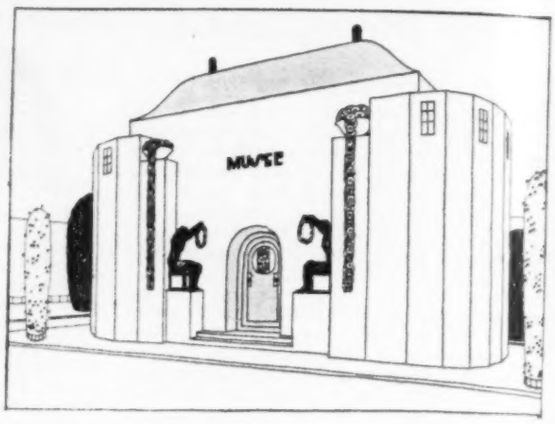
Balham, S.W.12.



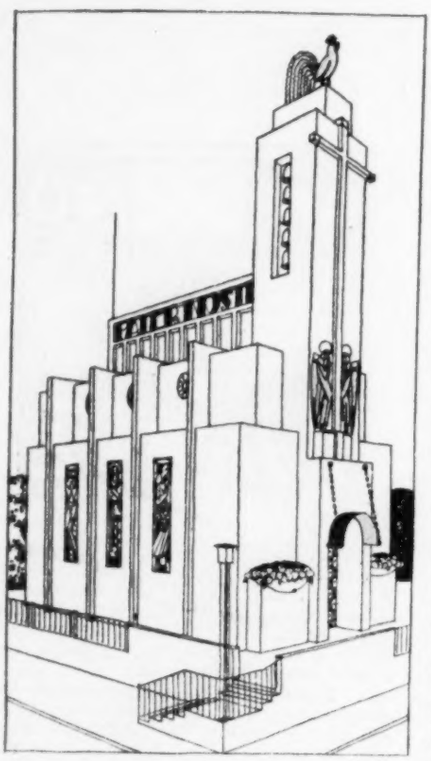




A LIBRARY.



A MUSEUM.

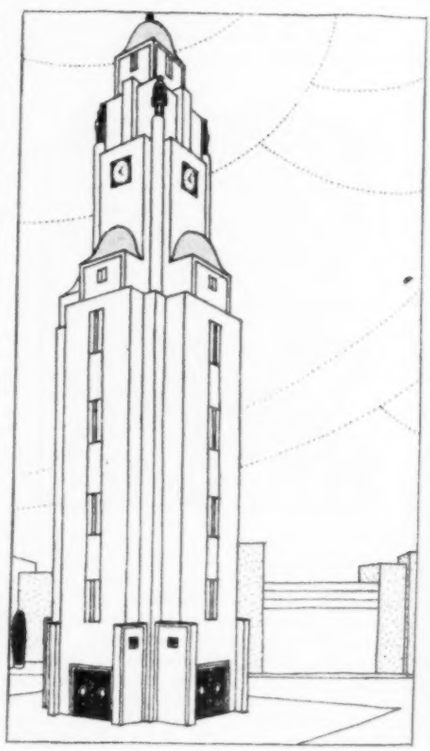


A CHURCH.

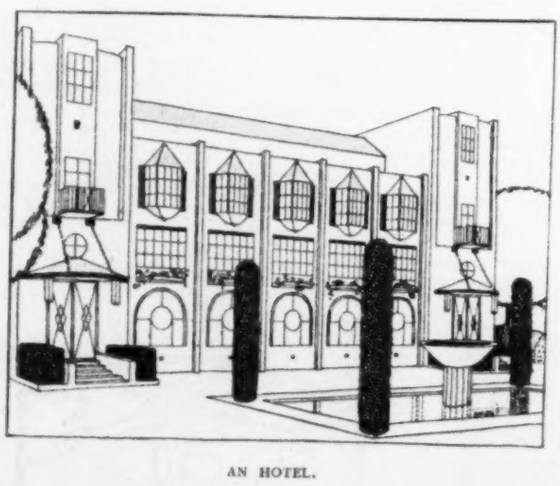
UNTRADITIONAL DESIGN

IF anyone were to sit down to the design of architecture free of all limitation of conditions, and either entirely ignorant or entirely forgetful of all principles and traditions, he would probably command more attention than respect for his work. Some essays in design which seem to have been evolved somewhat in this way have been published in book form by Messrs. Benn Brothers; the author being Mr. Rob Mallet-Stevens. Here are designs for almost all kinds of buildings, and if they are like little we have seen on earth before, they have a sort of common denominator amongst them. They are striking enough, and suggest that the only limitations before the author might be those which concerned their erection in ferro-concrete. Despite many glaring offences in proportion, the designs do seem to suggest a sculpturesque view of architecture and a belief in the values of mass and ponderosity. The massiveness of many modern German designs has often amounted almost to brutality, and it is easier to produce massiveness than a dignified treatment of mass.

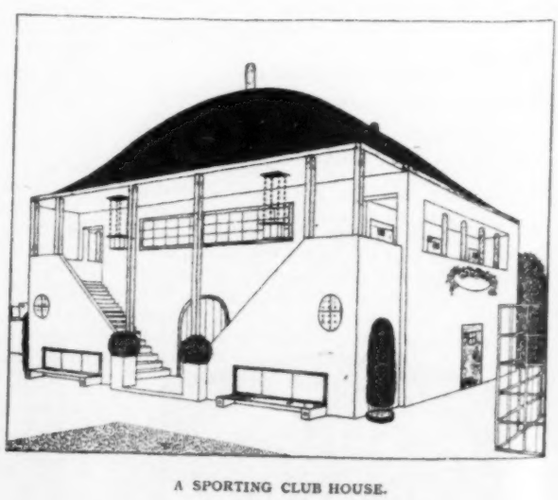
We have often felt that there is something greatly lacking in the architect's training, and a something that is also lacking in that of the sculptor's; they both need to learn more of each other's art. At first sight one might feel that designs like those before us might have been evolved by a sculptor, who would studiously have left out details and thought only of masses; but probably few sculptors could so far throw behind them all the traditions of art. At least we may find these designs by Mr. Mallet-Stevens stimulating. They will certainly rouse the antagonism of those who are steeped in a knowledge of tradition.



A BELFRY.



AN HOTEL.



A SPORTING CLUB HOUSE.

Designs by MR. ROB. MALLET-STEVENS, Architect.

THOUGHTS IN WESTMINSTER ABBEY.

By REGINALD HALLWARD.

A MORATORIUM for art would not be at all a bad thing so far as the Abbey is concerned, limiting ourselves to repairs and preservation rather than to any more additions. I should be the last to hold any brief against art, but it is a perilous adventure in such a case, because it has become buried under so many disguises that it is difficult now to penetrate through to it. The gods come in disguises stranger than ever, so strange as to be almost undiscoverable, and art has become so sophisticated—in the hands of experts—that its simple issues have been lost sight of. On the other hand, there is an approach to better things in the growing communal idea which will wrench art from the distinguished person, and also, I hope, from the trafficker in it. I think we are becoming a little more uncertain of the individual aim, in which is so often incorporated that frightful desire to set the Thames on fire, and, also, of the purveyor of art as a commercial commodity A desire as citizens—and citizenship precedes art—to contribute to the well-being of the corporate life is better expressed in a humbler attitude than an ambition to do great things, or to profit oneself. As a consequence it begins to dawn that the money computation or the "successful reputation" is not enough. It is not any longer regarded as axiomatic that we shall obtain art on a money computation of purchase, or because of the facilities for its purchase wholesale. On such a basis we shall be pretty sure to seek beauty in the wrong place. A later time will, perhaps, recognise who the artists were, little as is the scope which has been found for them in recent years, during the prevailing of the commercial ideal.

At a time of doubt and uncertainty about many things the advice to do the thing that lies nearest—though it may not be the work of setting the Thames on fire—will be most advantageous. It is for this reason we all welcome so heartily the work being carried on at the Abbey under Professor Lethaby's direction. There is more need to do the little unexciting things—if you choose to think them so—than to embark in large schemes, or memorials of whatever kind. At such a time it is fortunate to find our Abbey Surveyor so alive to this view of the matter. If we would realise what can be achieved in this direction, let the visitor examine the shrines on the north side of the Sacrarium which have been recently cleaned. Freed from the obscurity of dirt and neglect, these matchless examples of the mediæval spirit once more reveal something of their original decoration and colour; and very beautiful is it, so freely done, so innocent in its playful opulence of design and colour. And this preservation has been carried out without the addition of one touch of new painting or gilding. Here is something worth doing, priceless in its value as the prolongation of the witness of a time when beauty grew naturally out of the common life. There is nothing very difficult in the nature of such beautiful work, if life is free enough to do it. No great amount of preliminary training is required to execute, and it occurs to one that if we had more of the amateur in our own work we might get something more unexpected into it. I can see that some of the best mediæval work was done this way, It is difficult to apportion value, and what is owing to the past is to be seen as much in the humblest as in the proudest instance. I will take, as an example of the humbler kind, the glazing of the window on the south side of the vestibule into Henry VII chapel. It is very simple plain glazing, which might not seem to call for attention, and I do so lest any fatal ardours towards stained glass should lead to its removal. Its humbleness is its praise, not its undoing, for the way these squares are designed to fit the lights proportionately to their place in them, diminishing in the tracery head, have just that freedom and unexpectedness of mother wit exercised away from the dreary burden of preconception associated with ordinary professional work. There is in the treatment of these lights, however elementary, the clue to all that is good in beauty and design. Because, though the foot be only on the lowest rung, it is a ladder which reaches to heaven. Plain glazing is, as a rule, very much to be preferred to stained glass windows, and we are beginning to realise the greater beauty of a more limited field of colour to the squandering of it all over the window. But plain glazing is not so simple as it appears and it varies enormously. If the windows, for instance, situated on the south side of the Confessor's Chapel had been executed by the hand of the glazier who put in the small lights to which I have referred, they would have been very different, introducing the sky and external masonry with an added charm, not as though they were barred from entering. The little window of which I speak has more attention now called to it from the fact of the limewashing outside, which not only adds much-needed light, but invests the masonry with quite a new romance. Of the gain of this much-needed light we are afforded another example in the large west window of Henry VII Chapel, which as the result of the limewashing outside has now instead of its former gloom a warm agreeable light entering through it.

In regard to the advantage of limewashing the Abbey, we see in these two little instances the countless indirect advantages which will result from such a change, and the hesitation in Professor Laurie's mind does not, I think, occur, because though the thickening of repeated coats will dull the sharpness of the carved detail of the architecture, the pollutions and discolorations of the atmosphere already do so, and therefore, in the fact of the limewashing, which, it may be accepted, will preserve the stone, we have a clear gain over the loss occasioned by the repeated coats, which in my view have a very compensating charm of their own. Let the inquirer compare one of the pinnacles of Henry VII Chapel now treated with whitewash, with one not so treated, and take notice how much the detail is obscured by dirt and discoloration in the latter. The limewash accentuates the sharp definition of light and shade and design which is absent from the pinnacles not so treated. There is fortunately plenty of warrant for such treatment, and Westlake has, I believe, recorded the many references in the Abbey accounts to charges for limewashing. We have seen the failure of chemical preservatives and I have much doubt as to any permanent value in the use of resins; but limewash has been tested by centuries of successful application to buildings and when there is added to its preservative character, the almost incomparable charm of its colour and surface—and I much agree with Professor Laurie that pure white is to be preferred to any admixture of colour—there seems a good case made out for proceeding with the good work of Professor Lethaby.

While on this subject mention should be made of the limewashing which has been carried out in that part of the cloister leading out into Deans Yard. After passing through the discoloured remains of the chemical treatment to be seen in the cloisters themselves, it is almost a revelation to linger in this portion, really restored to us in so simple and salutary a way. All this recovery, this reinstating of so much of the more original beauty of the Abbey done in quiet ways, without the insecurity that attends on the adding of new work, is proceeding day by day, here a little and there a little, and among other most useful reparations leading to the best result is that of the cleaning of the escutcheons above the spandrils of the arcading in the nave aisles. The shields originally occupied these spandrils, and up to the time of their present cleaning were so obscured by dirt as to be almost overlooked. Their form and colour have now been revealed again by Mr. Tristram's very skilful cleaning, and present much of their original beauty of form and colour, without a single touch of colour added. To realise the importance of the present work now being carried on we have only to look at these escutcheons, and the instances can be multiplied which are conserving to us the more ancient features of the Abbey. The public should make themselves acquainted with the work because it is much more suited to the needs of the Abbey than that of setting the Thames on fire.

It is difficult for the visitor who stands amid the Abbey's soaring aisles not to feel in a sense part of it himself. The feeling of being part of this proud inheritance is becoming, but he should remember that we did not build it, and that if it belongs to the past, it also belongs to the future, and that our obligation is to both. Yet the doctrine that a man can do what he likes with his own has been in recent generations carried pretty far in the Abbey. Instances are too many and familiar to need recording here, but the monstrous effigy of James Watt and the upholstery which now smothers the tomb of Edward the Confessor are bright examples. We assume rather complacently that the lesson of these defacements has been learned, but has it? It is because we doubt of this that a moratorium for art is so necessary.

But there are further reasons which it becomes us to understand. When we talk of tradition we must know what it means for us before it can be appealed to usefully. The forms through which art expresses itself are only the clothing of a spirit which transcends and shapes them, and which belongs to all time. Fundamentally it depends on the master we serve, on where our hearts are. If life is governed by religion beauty will emerge out of the more perfect freedom which is its gift, unconsciously nourishing life into more perfect flower. It certainly will not be nourished on the imitation of the forms of any given period, as though they were the same thing. So we reach the conclusion that the sources of beauty lie neither in the commercial ideal, nor in the pride of craftsmanship which leaves out this essential endowment which is the link of tradition, and so it is that we find a moratorium to be desirable for art. At the same time I must protect myself from any complicity in that self-effacing argument which is sometimes applied, to the effect that we have no right to lay down what is good or bad, or to insist on our own preference which, in other words, comes to mean, whatever the vandalism or monstrosity—a James Watt statue or Edward the Confessor's pall—is to be inviolate from our criticism. Is our judgment never to be exercised—are there no laws to which we can appeal—only your taste or mine? The deeds of men do not rest on nothing, that we can acquit ourselves of responsibility in this way.

If we cannot stop the inclusion of new work into the Abbey we might, at least, enforce some of the essentials of its justification. Colourable imitations of fourteenth-century art, or any other, without any first-hand interpretation and meaning, are bad in art, opposed to tradition, and violate all that the Abbey stands for. The alternative "arts and crafts," art, with its exclusive outlook and self-consciousness, is the opposite of the humble spirit of the Gothic period and of its freedom, and resting so much on pride cannot penetrate life, and is, therefore, opposed to the spirit of the mediæval worker. The very phraseology with which we must attempt a description of either, finds no place for the inclusion of those words which best denote the power and the tranquillity of mediæval art—fellowship, a humble spirit, unworldliness, piety—what have these to do with that which is built up by pride and money? In our view the art that should find entrance into the Abbey will come, when it does come, and there is already witness of its coming, through the average life, through the expression of its more corporate ideals. If this is so, it will not come in the same form as the old, as it will come out of ourselves, and, therefore, in a new way—perhaps to transcend all that has gone before, and because it will then be nearer to religion it will therefore be nearer to art.

LEADING CONTENTS.

	PAGE
TRADE AND UNEMPLOYMENT	363
NOTES	364
CORRESPONDENCE	367
THOUGHTS IN WESTMINSTER ABBEY	369
THE LONDON COUNTY COUNCIL HOUSING ESTATE AT BELLINGHAM	373
WEST-CLIFF IMPROVEMENT SCHEME, RAMSGATE	378
INTERNATIONAL CONGRESS OF ARCHITECTS	379
STREET ARCHITECTURE—IV	380
BOOK REVIEWS	381
HOUSING AND HUT CONVERSION	382
HOUSING AND TOWN PLANNING NOTES	382
ORDNANCE SURVEY STAINED GLASS WINDOWS	383
ELECTRIC LIFT EQUIPMENT FOR MODERN BUILDINGS—VI	384
BUILDING ENGINEERING	387
TRADE UNION CONGRESS	388
EDUCATIONAL COURSES	389

ILLUSTRATIONS.

Bellingham Housing Estate.

We illustrate this week the R.A. exhibit of the L.C.C. Bellingham Estate housing scheme. Mr. G. Topham Forrest, F.R.I.B.A., F.R.S.E., F.G.S., is the Council's architect.

Offices for the Asiatic Petroleum Co., Changsha.

The plans illustrated on this page show a steel-framed modern type of office building to be erected for The Asiatic Petroleum Co., Ltd., at Changsha. A peculiar feature is the raising of the ground floor on a sub-ground floor, so as to place the former out of reach of floods. The building will be fire-resisting and fitted throughout in the most serviceable and up-to-date manner, due regard being paid to cleanliness and reduction in cost of upkeep. As far as possible local materials are employed in construction. All iron and steelwork, however, and such fittings as steel casement windows, lifts, electric light fittings, leaded glass, tiles, bronze work, sanitary and heating fittings, door furniture, &c., are imported. All labour employed in fixing these and all carpenters' and other tradesmen's work is done by Chinese labour, under the direct supervision of the architects, Messrs. Palmer & Turner, which presumes a very thorough and extensive experience of the carrying out of the work and the local conditions involved.

Altar and Reredos, R.C. Cathedral, Port of Spain, Trinidad.

The altar with reredos was designed as one of several alterations and additions being carried out at this Cathedral. The reredos will be constructed of hardwood, painted and gilt, the central panel to frame a painting. The drawing was exhibited at the R.A. Exhibition. The architects are Messrs. Leonard Stokes, Drysdale & Aylwin.

Talacre Abbey, Flintshire, North Wales.

This design, which was hung in the Royal Academy this year, was prepared by the architects, Messrs. Nicholas & Dixon-Spain, FF.R.I.B.A., for the Benedictine Community at Talacre Abbey as their ultimate objective to meet the needs of a strong convent, but is in abeyance until funds enable the scheme to be put in hand. The plan follows the traditional arrangement handled to suit a difficult site, the treatment of the levels to cope with a rapid fall in the ground being of interest. The exterior is perhaps reminiscent of the simpler Italian monastery rather than the ornate English Gothic buildings.

New Business Premises, Manchester.

We illustrate this week the design for new premises in the Market-street, Manchester, for Messrs. Bowden & Morton, land agents and valuers. The architects are Messrs. Halliday, Paterson & Agate, of 14, John-street, Manchester.

Interesting Archæological Discovery.

According to the *Times*, an archæological discovery has been made by Mr. Arnold Mitchell, architect, of Hanover-square While in Dorset recently, Mr. Mitchell came across a marble Greek statue of great antiquity in one of the villages. The statue, which has suffered surface injury from exposure, is of a woman, and is now in the Ashmolean Museum at Oxford, where it is considered a valuable addition to the exhibits there. Dr. Percy Gardner, Professor of Classical Archæology at Oxford University, puts the age of the statue at two thousand two hundred years, his opinion being that this remarkable "find" dates from about B.C. 300 As the marble is the coarse-grained material of the islands, Professor Gardner has formed the opinion that the statue comes from the neighbourhood of Smyrna. On the side of the head there are two holes. These, Dr. Gardner says, were clearly for the fixing of a gold or bronze adornment.

Offices of the Asiatic Petroleum Co., Ltd., at Changsha
MESSRS. PALMER & TURNER, Architects.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN exhibition of contemporary British architecture will be held in the Galleries of the Royal Institute, 9, Conduit-street, W.1, from November 1 to December 9. The following arrangements have been made for the organisation of the exhibition:—

All architects in the British Empire are invited to submit their work.

Work that has already been exhibited elsewhere will not be excluded.

Exhibits must be confined to works executed or illustrations of works projected since the beginning of the twentieth century.

All exhibits must be framed and may be glazed.

There is no limit to the number of works which may be included in one frame.

Models will not be accepted for exhibition.

Exhibits may consist of photographs, elevations, perspective drawings, and small scale plans. The exhibitor may choose whether he will send any or all of these. Photographs of drawings are admissible.

As the available wall-space is very limited, it is anticipated that not more than 15 sq. ft. of wall-space (inclusive of frames) can be allotted to any exhibitor.

An insurance policy will be taken out for the exhibits while they are in the custody of the R.I.B.A., but the R.I.B.A. will incur no legal liability for loss or damage.

The last day for the receipt of drawings and photographs will be October 7, 1922.

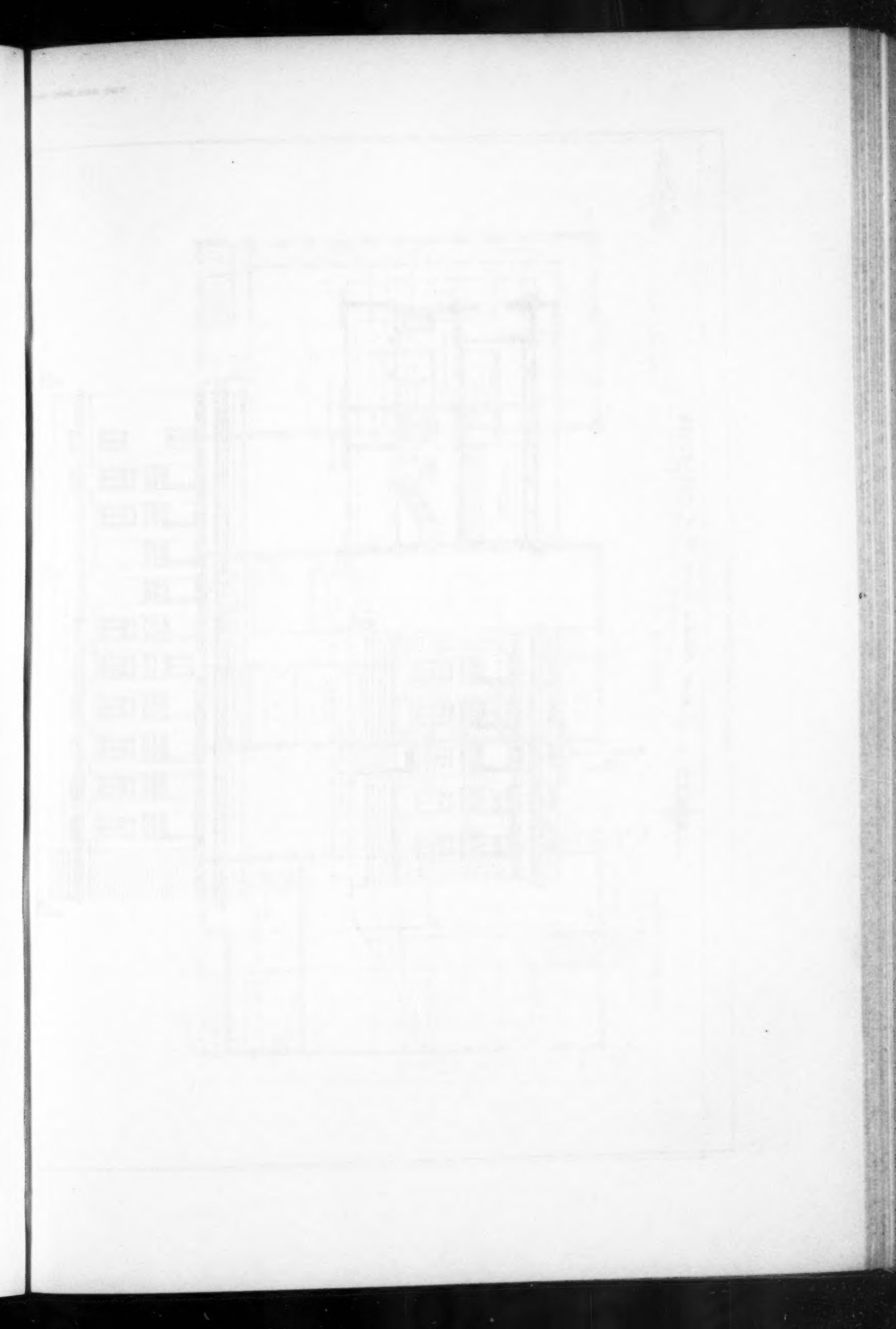
All exhibits not accepted must be removed by exhibitors not later than October 22, 1922.

The exhibition will be open to the general public (free) between the hours of 11 a.m. and 6 p.m.

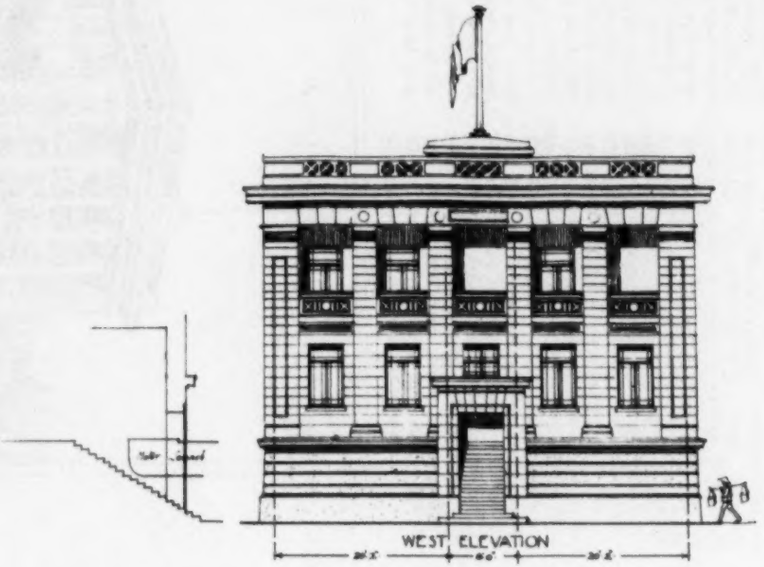
EXHIBITION NOTES.

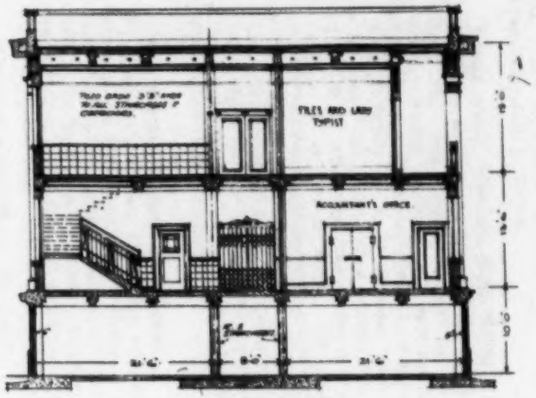
LONDON SALON OF PHOTOGRAPHY.

IT is certainly not photographers or people interested in photographic art alone who will find great pleasure in the International Exhibition of the London Salon of Photography at the R.W.S. Gallery in Pall Mall. Fine studies of all sorts of subjects abound, and we should say that the proportion of good exhibits to those which are poor or indifferent is vastly larger than in most exhibitions of pictures. We may feel inclined to wonder that more finer pictures of architectural subjects are not to be found, especially as in London itself the possibilities in this direction are endless; hardly a week passes that we are not struck with some fresh aspect of the architecture of our streets which might well be photographed or drawn. But we may find some very admirable pictures of architectural subjects here, and one which is most successful of its kind is the view of "A Temple of Commerce," which illustrates in quick perspective a corner of Mr. Cooper's great building for the Dock Board in Prince's-square. The breadth and softness of the view of a brand-new building like this are very pleasing. Two charming results by Mr. J. R. H. Weaver are to be found in "Evening, Valencia Cathedral" (116) and "In Avila Cathedral" (110); these are remarkably clear and dainty, with delightful play of light and shade. Very broad and forcible is "The Mosque by Moonlight" (112), by F. de la Mare Norris. A fine print of a very skilfully-selected point of view is the "In the Garden of the Villa D'Este" (46), by Chas. Job, and amongst other excellent architectural subjects are "London Landscape—Rainy Day" (58), by W. H. Reece, "Palazzo Madama, Turin" (162), by G. C. Dall'Armi, and "Church of the Jesuits" (192), by J. McKissack. Admirably pictured effects of light and shade are "Sunlit Yard" (18), by J. Arthur Lomax, "Sunlight" (216), by W. H. Reece, "South Africa" (324), by A. V. Insol, and "The White Walls of Glamorgan" (309), by T. J. Lewis. Nos. 3, 27, 45, 50, 56, 70, 87, 100, 120, 135, 141, 168, and 174 are amongst the numerous fine figure studies. Some of the landscape pictures appear to have almost stepped outside the bounds of photography.

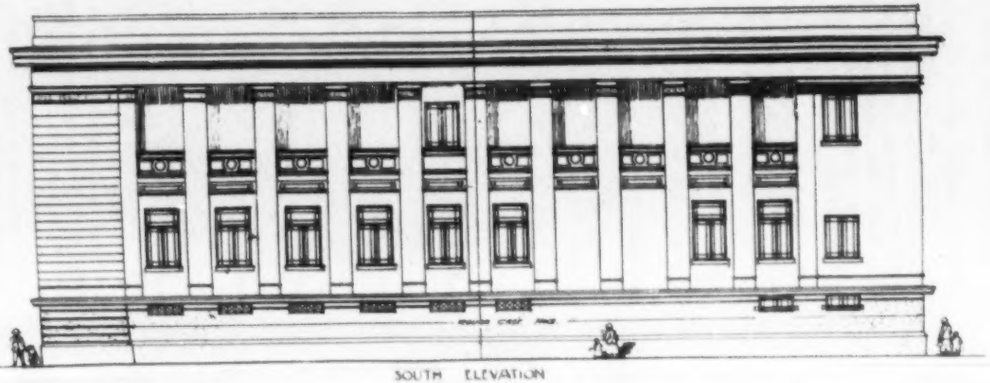


OFFICES for the Asiatic Petroleum Company Ltd at CHANGSHA



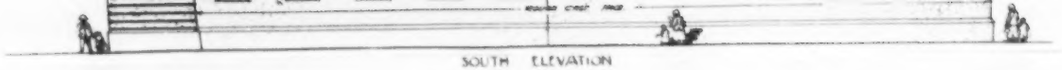


SECTION on line AB

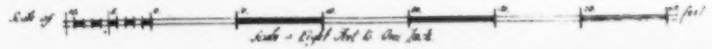


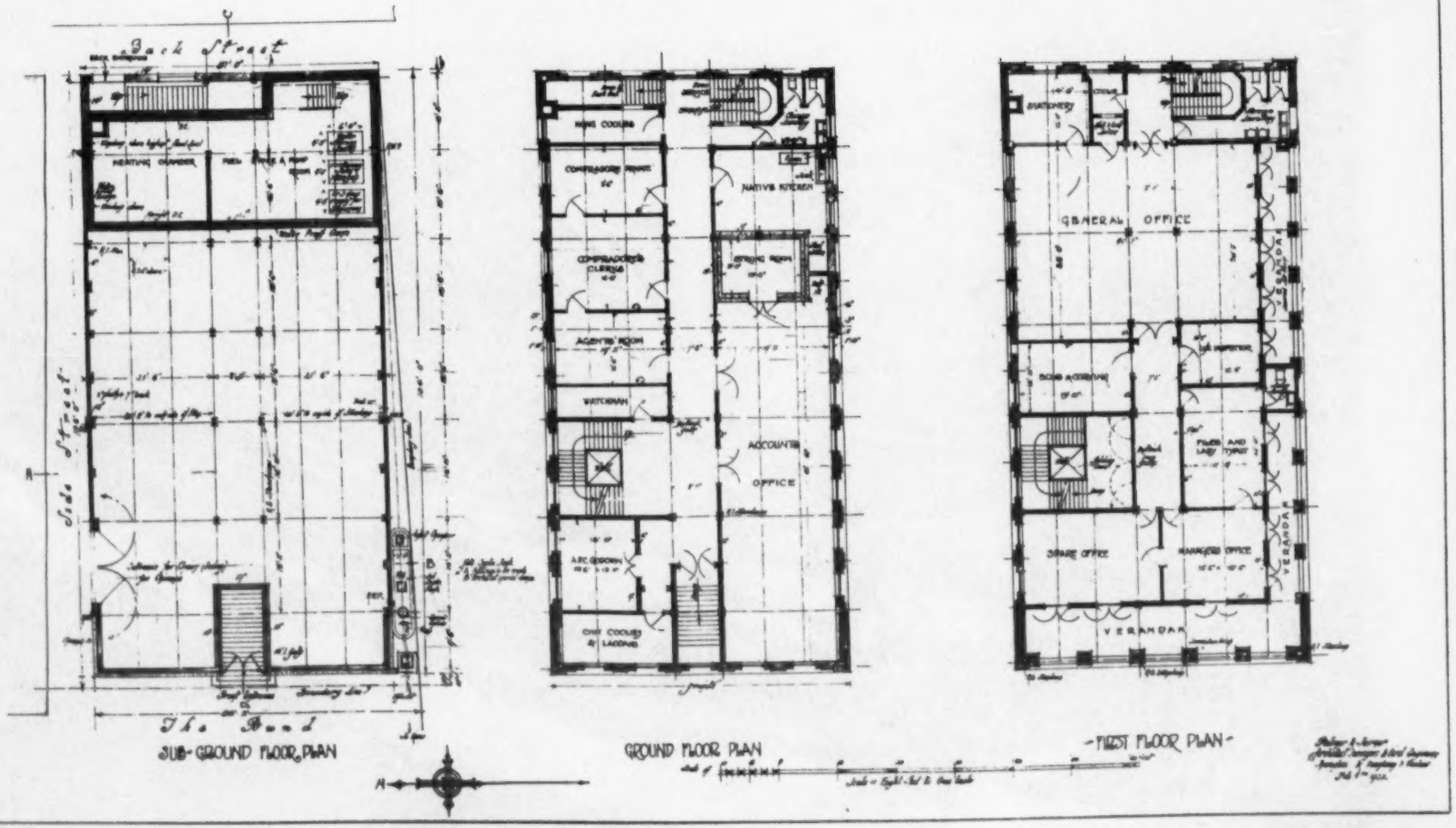
SOUTH ELEVATION

THE BUILDER, SEPTEMBER



SOUTH ELEVATION



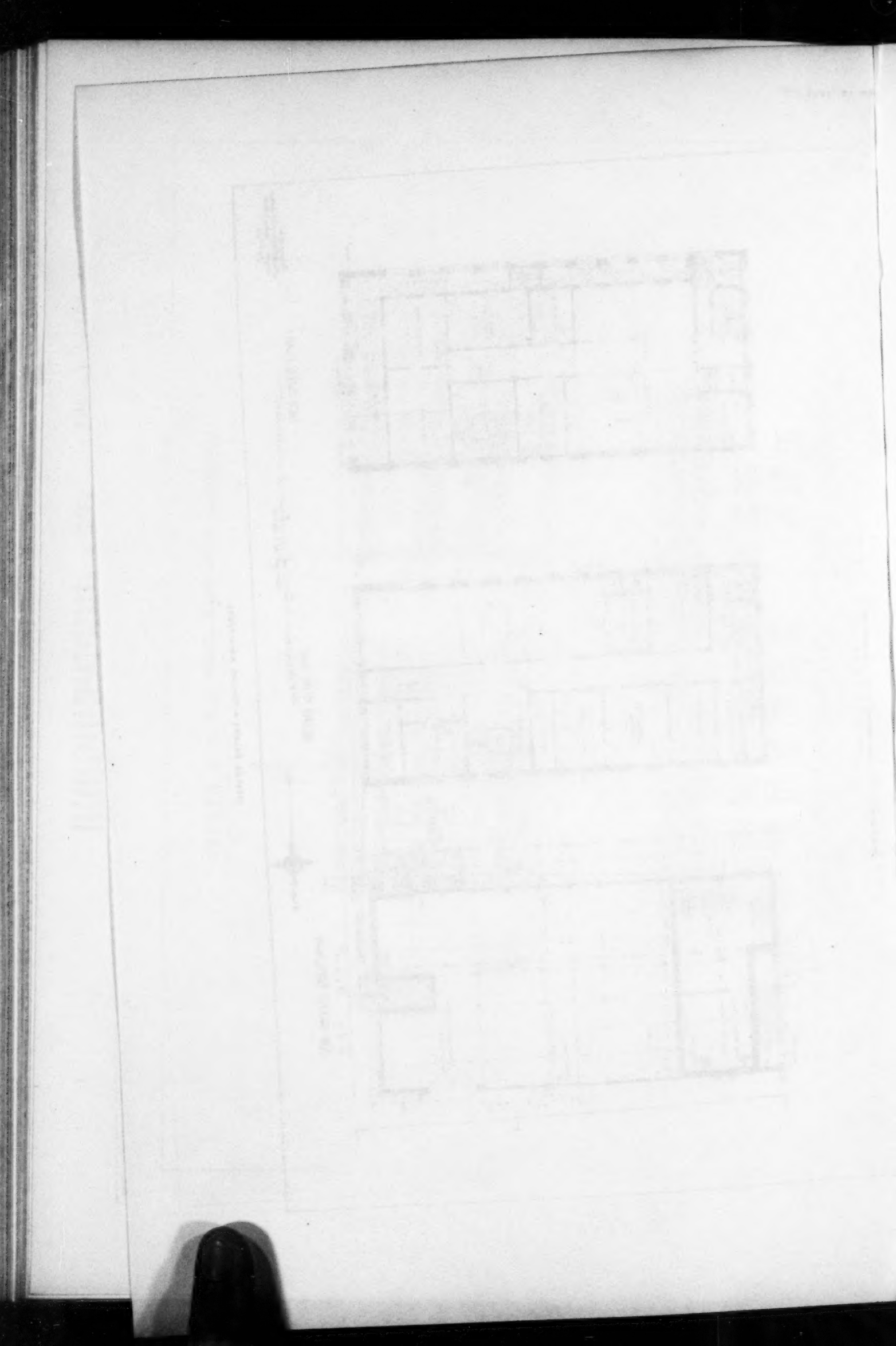


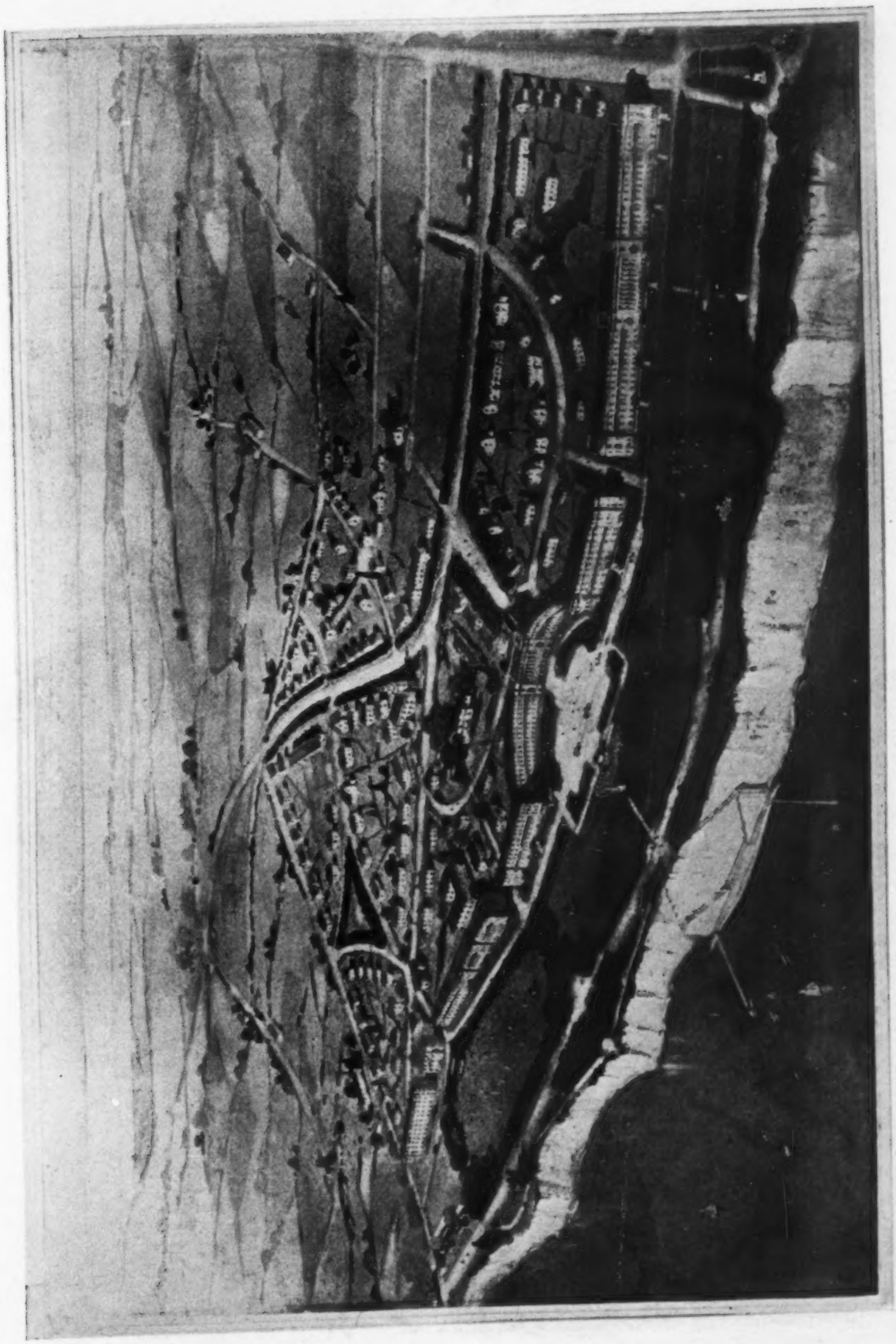
SUB-GROUND FLOOR PLAN

GROUND FLOOR PLAN

FIRST FLOOR PLAN

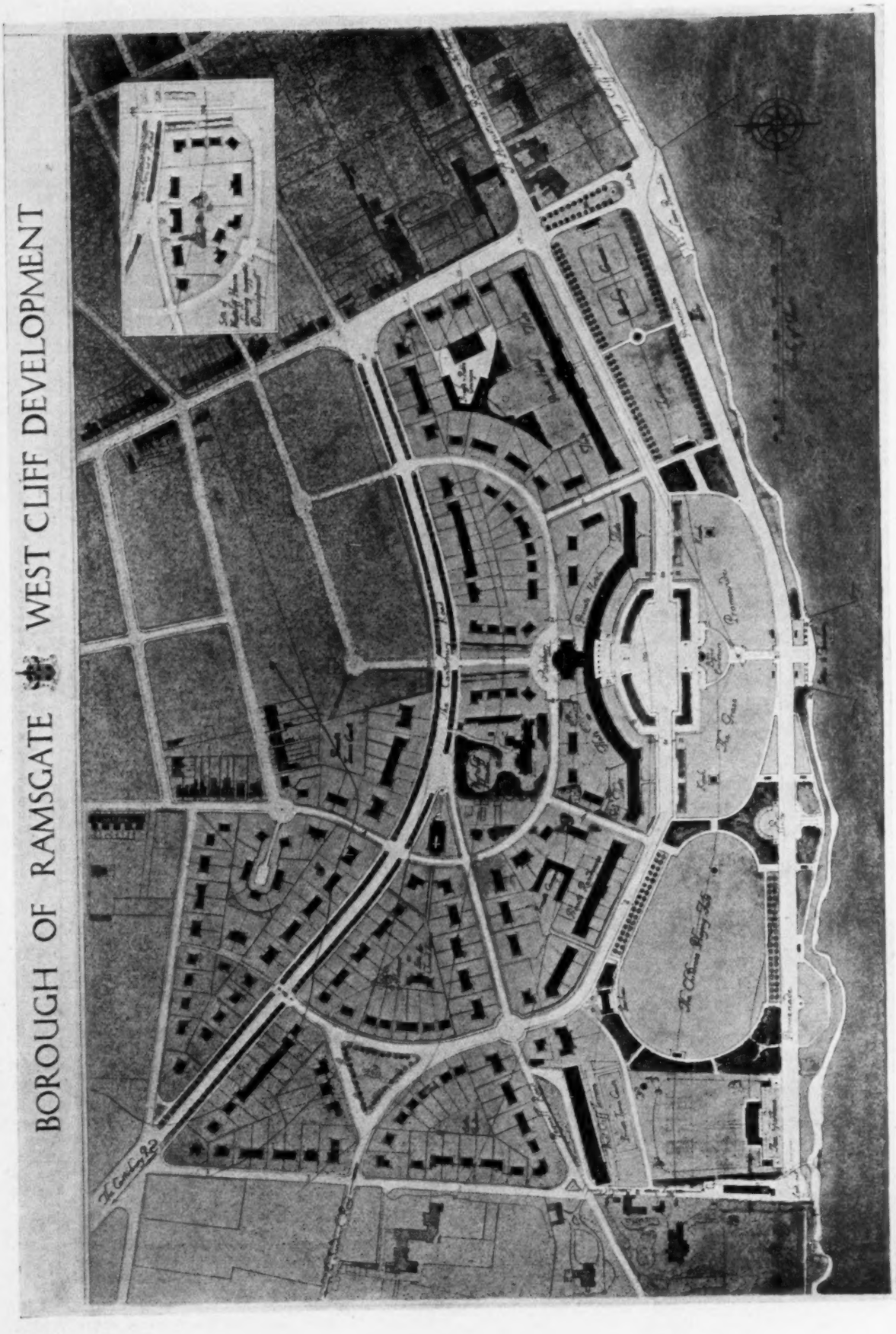
MESSRS. PALMER & TURNER, ARCHITECTS.





Borough of Ramsgate West Cliff Development.

FIRST PREMIATED DESIGN, BY MESSRS. W. HARDING THOMPSON, A.R.I.B.A., AND P. D. HEPWORTH, A.R.I.B.A., ASSOCIATED ARCHITECTS.



FIRST PREMIATED DESIGN, BY MESSRS. W. HARDING THOMPSON, A.R.I.B.A., AND P. D. HEPWORTH, A.R.I.B.A., ASSOCIATED ARCHITECTS.

THE LONDON COUNTY COUNCIL HOUSING ESTATE AT BELLINGHAM.

The Bellingham Housing Estate, illustrated in this number, is familiar to the public, a bird's-eye view having been exhibited in the Royal Academy. It is one of the largest of the great Government schemes. The estate, of about 250 acres, was purchased by the Council at a price approximately £200 per acre, and is situated in the Metropolitan Borough of Lewisham, about nine miles from Charing Cross. The portion devoted to working-class houses, containing some 175 acres, forms a triangle bounded on the west by the Mid-Kent branch and on the east by the Catford loop-line of the S.E. & C. Railway, while the southern boundary is Southend-lane. The area is served by three stations, of which Bellingham is the most central and commands a fine view of the estate. Tramways and omnibuses pass close by along the Bromley-road. The subdivision of the estate and the accommodation provided are as follows:

	Acres.
Housing site	176.5
Area reserved for houses other than working-class	52.0
Market gardens, etc.	23.5
	252.0
The housing site includes:	
Allotments	20.40
Recreation Ground	9.50
Site for two Schools	4.79
Site for Churches, Shops, etc. ..	4.58

ACCOMMODATION.

399	5-room houses.
1,103	4-room houses without parlours.
111	4-room houses with parlours.
188	3-room houses
156	3-room flats.
132	2-room flats.
2,089	

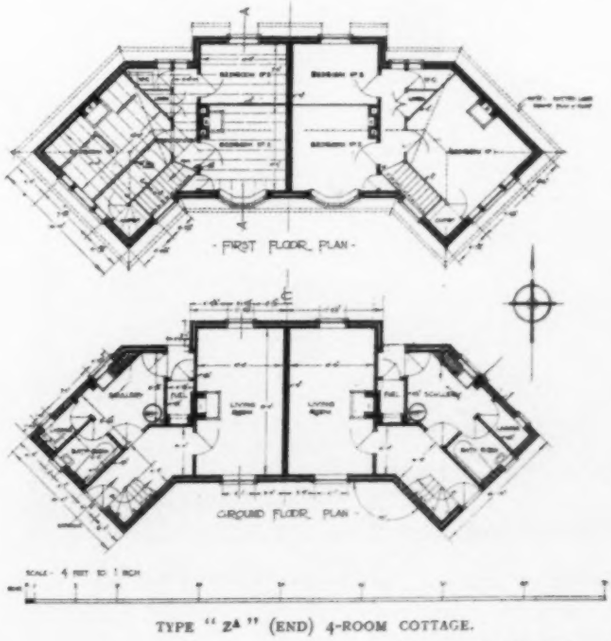
An estate office and workshops are situated in Randlesdown-road. About 1,353 houses have been completed, and it is anticipated that the whole of the work will be finished by the end of the year. The contract was signed by Sir Robert McAlpine & Sons in September, 1920, and the order to begin was dated October 23rd, 1920. At one time 3,600 workmen were employed upon the Estate.

All external walls are 11 in. hollow walls faced with various bricks: Slinfold Stocks, Kent Stocks, M.M Dorkings, H.M. Dorkings, Grey Sussex, Highbroom Reds, Brickley Reds, and Brickley Brindles. The roofs are covered with Courtrai, Marseilles, Van Eght, and Home tiles, and Welsh slates.

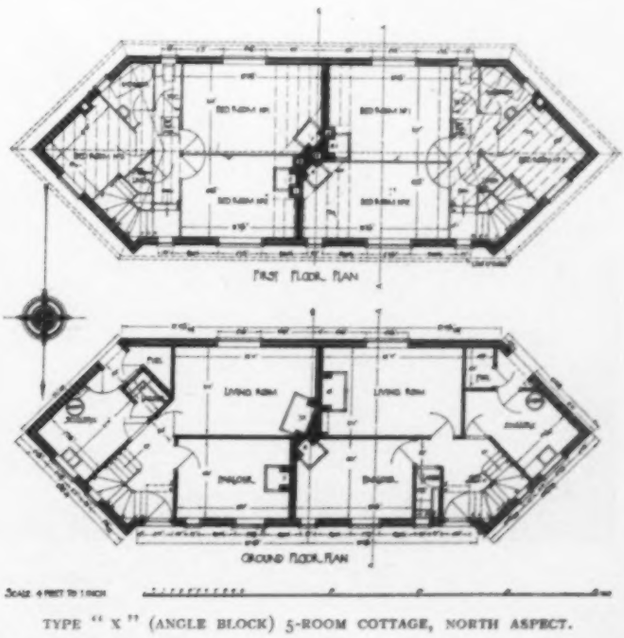
The whole of the work, including the lay-out, roads, sewers, and the plans of the houses, has been designed and is being carried out under the supervision of Mr. G. Topham Forrest, F.R.I.B.A., F.R.S.E., F.G.S., the architect to the Council.

The scheme should be visited by those interested in the latest phase of housing development, as probably nowhere can the beneficial effect of judicious economy in road-making and the benefits of reasonably wide-fronted and well-lighted houses be seen to better advantage. The lay-out exemplifies the value of foresight in planning towns, because, while certain roads are designed with a view to future widening should the traffic demand it, others are so contrived that they could never be required or used as main roads, and hence their width and substance is kept proportionately lighter and more economical. The somewhat capricious mixture of roofing materials and the quaint mansard roofs are the results of shortage of different kinds of labour and materials which necessitated making the best use of available supplies, whether of foreign tiles, timber, or internal wall coverings. The originality of the scheme thus arises to a great extent from obstacles that had to be overcome in the most economical manner, and is not the result of conscious striving after novelty, which is nearly always unsuccessful. The method of stepping blocks of houses up hilly roads is a good solution to a difficult problem, and the general effect is varied, interesting, and entirely different from the sterotyped monotony associated with the conventional suburb.

ENTRANCE TO MOREMEAD-ROAD FROM SOUTHEND-LANE.



TYPE "ZA" (END) 4-ROOM COTTAGE.



TYPE "X" (ANGLE BLOCK) 5-ROOM COTTAGE, NORTH ASPECT.

The L.C.C. Housing Scheme, Bellingham.

MR. G. TOPHAM FORREST, F.R.I.B.A., Architect to the Council.

QUADRANGLE, BANDLESDOWN-ROAD.

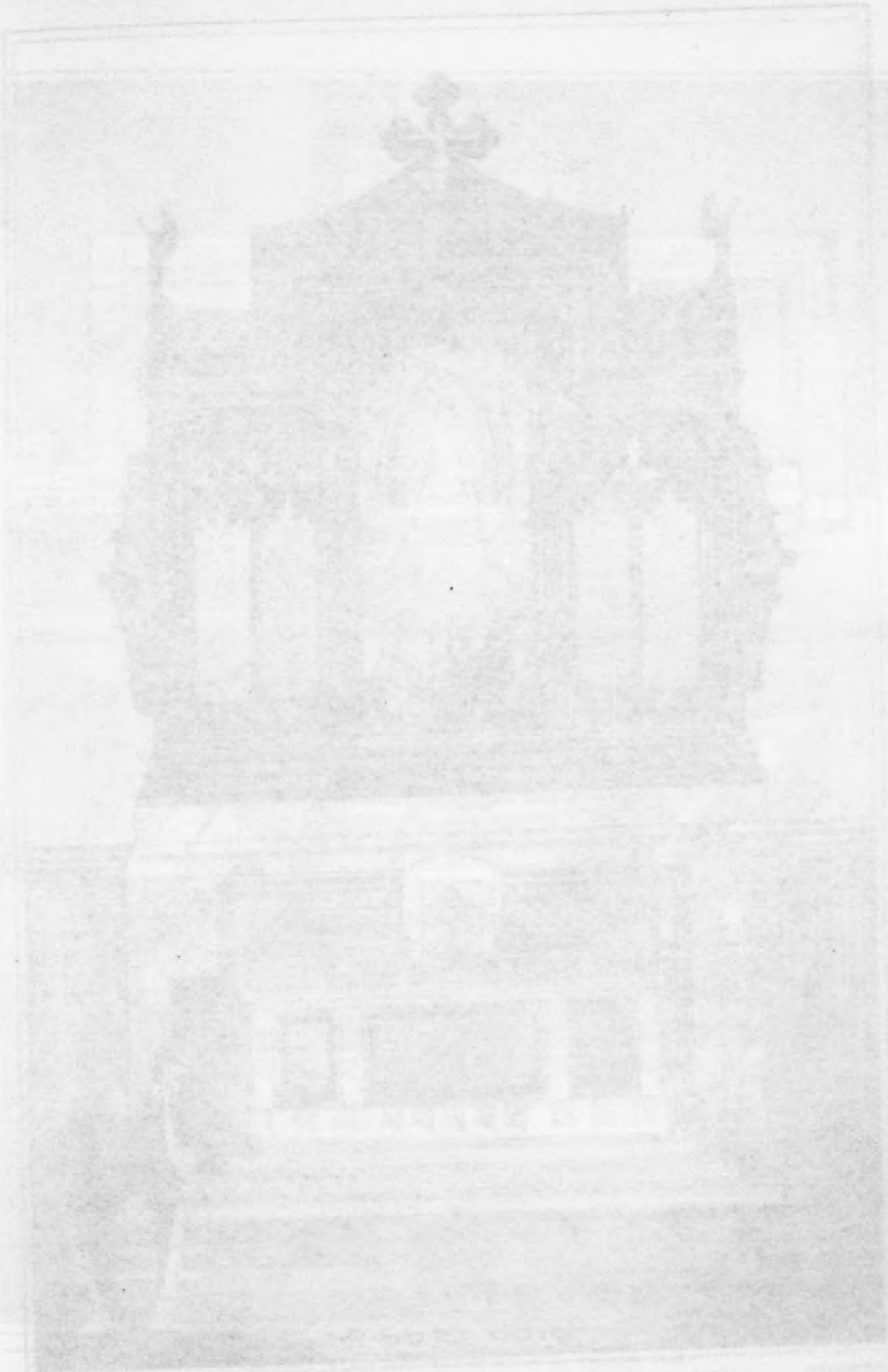
GENERAL VIEW OF OTTERDEN-STREET.

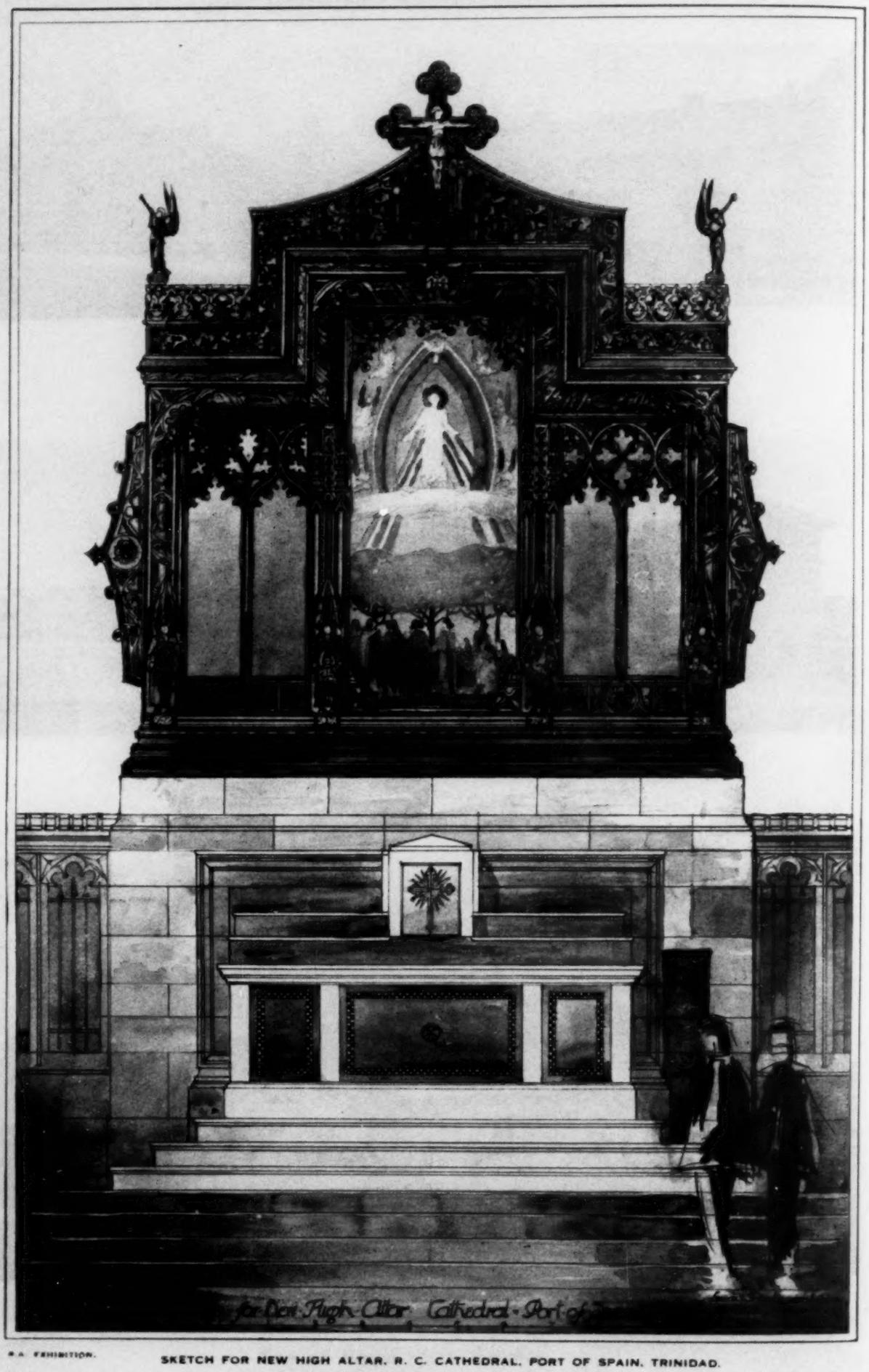
BLOCK 10, KNAPMILL-ROAD.

See plan, Type "M," page 376.

The L.C.C. Housing Scheme, Bellingham.

MR. G. TOPHAM FORREST, F.R.I.B.A., Architect to the Council.

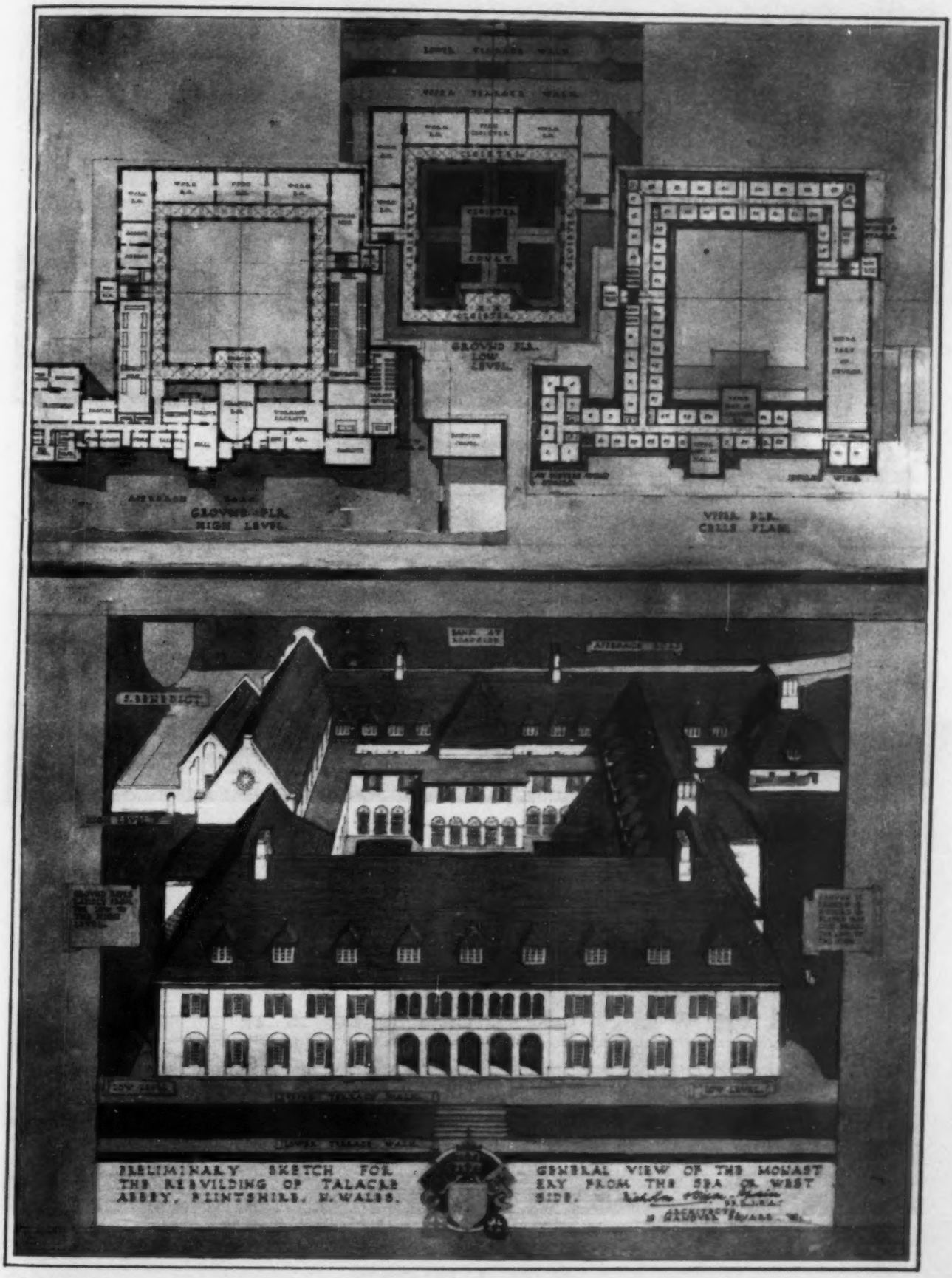




R.A. EXHIBITION.

SKETCH FOR NEW HIGH ALTAR, R. C. CATHEDRAL, PORT OF SPAIN, TRINIDAD.

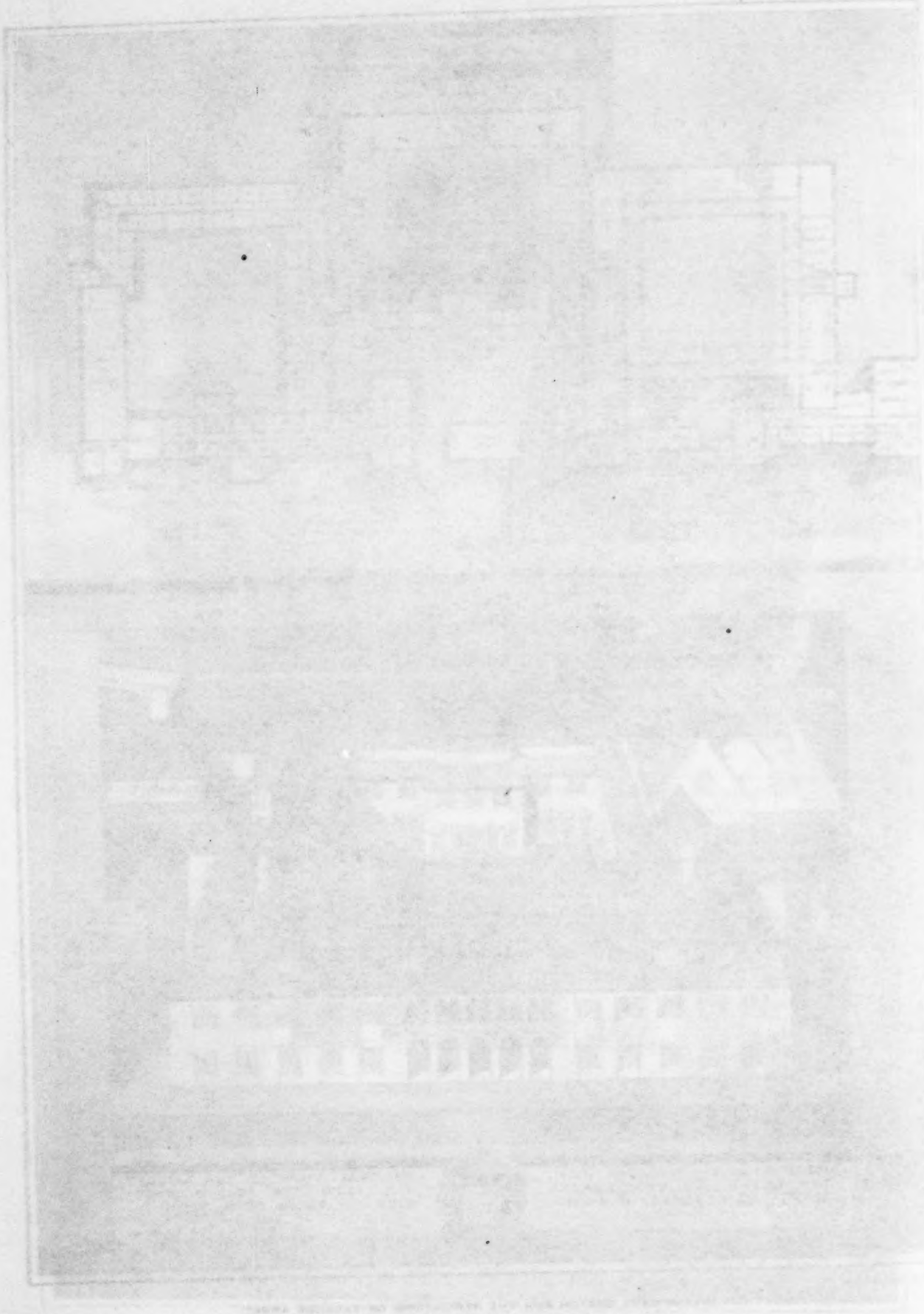
MESSRS. LEONARD STOKES, DRYSDALE & AYLWIN, ARCHITECTS.


GROUND PLR.
LOW LEVEL.
GROUND PLR.
HIGH LEVEL.
VILLA PLR.
CELLS PLAN.
PRELIMINARY SKETCH FOR THE REBUILDING OF TALACAR ABBEY, FLINTSHIRE, N.WALES.
GENERAL VIEW OF THE MONASTERY FROM THE SEA OR WEST SIDE.

R.A. EXHIBITION.

PRELIMINARY SKETCH FOR THE REBUILDING OF TALACRE ABBEY.

MESSRS. NICHOLAS & DIXON-SPAIN, FF.R.I.B.A., ARCHITECTS.



BLOCKS 13-14, MOREMEAD-ROAD.

See plan, Type "Z," page 373.

BLOCK 59, BELLINGHAM-GREEN.

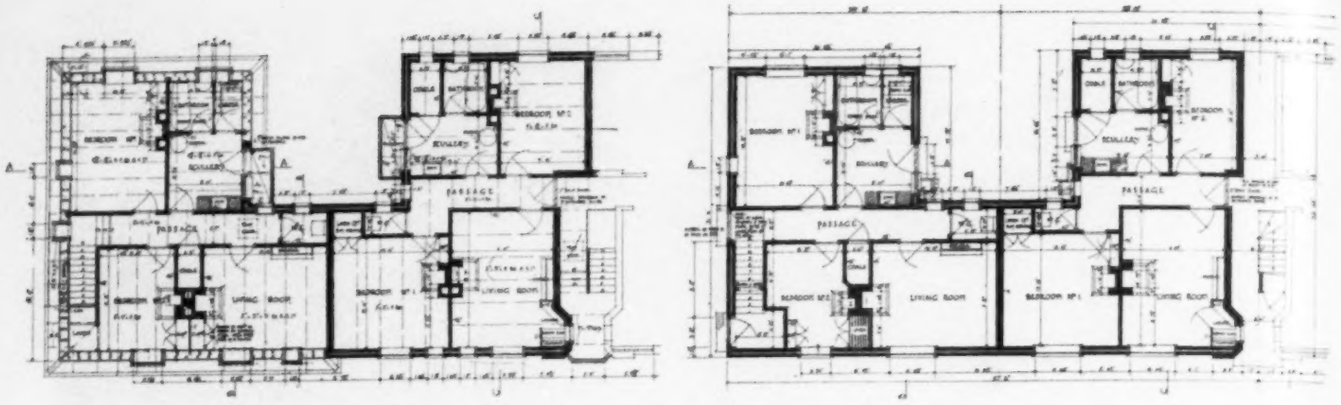
See plan, Types "H" and "J," page 376.

BLOCK 25, JUNCTION OF FIRHILL-ROAD AND BROODMEAD.

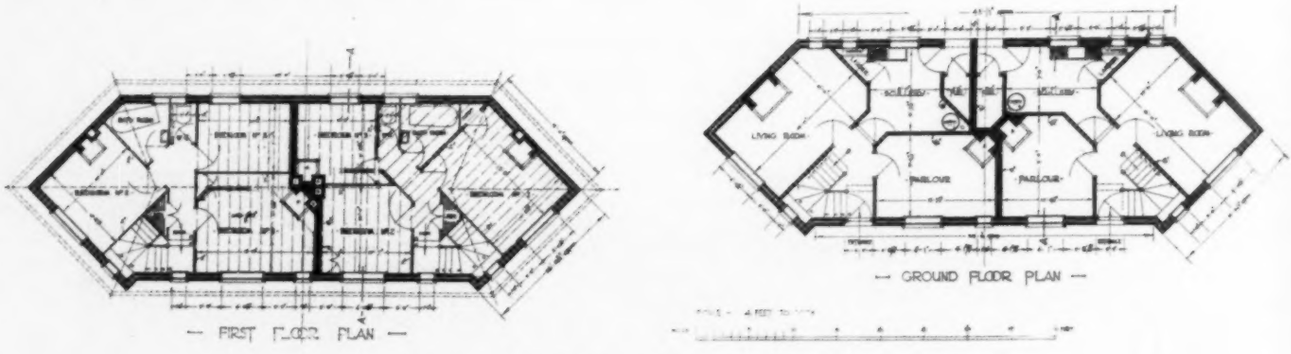
See plan, Type "Y," page 376.

The L.C.C. Housing Scheme, Bellingham.

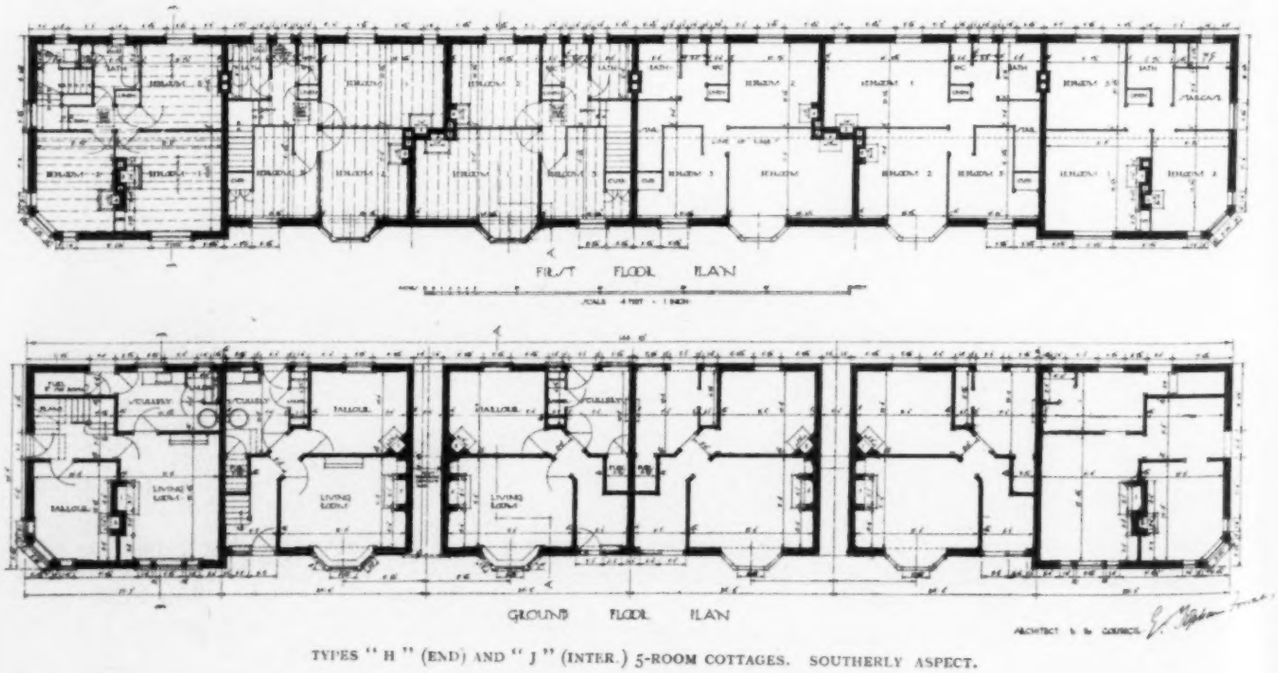
MR. G. TOPHAM FORREST, F.R.I.B.A., Architect to the Council.



TYPES "M" (END) AND "M" (INTER), SOUTHERLY ASPECT, 3-ROOM FLATS.



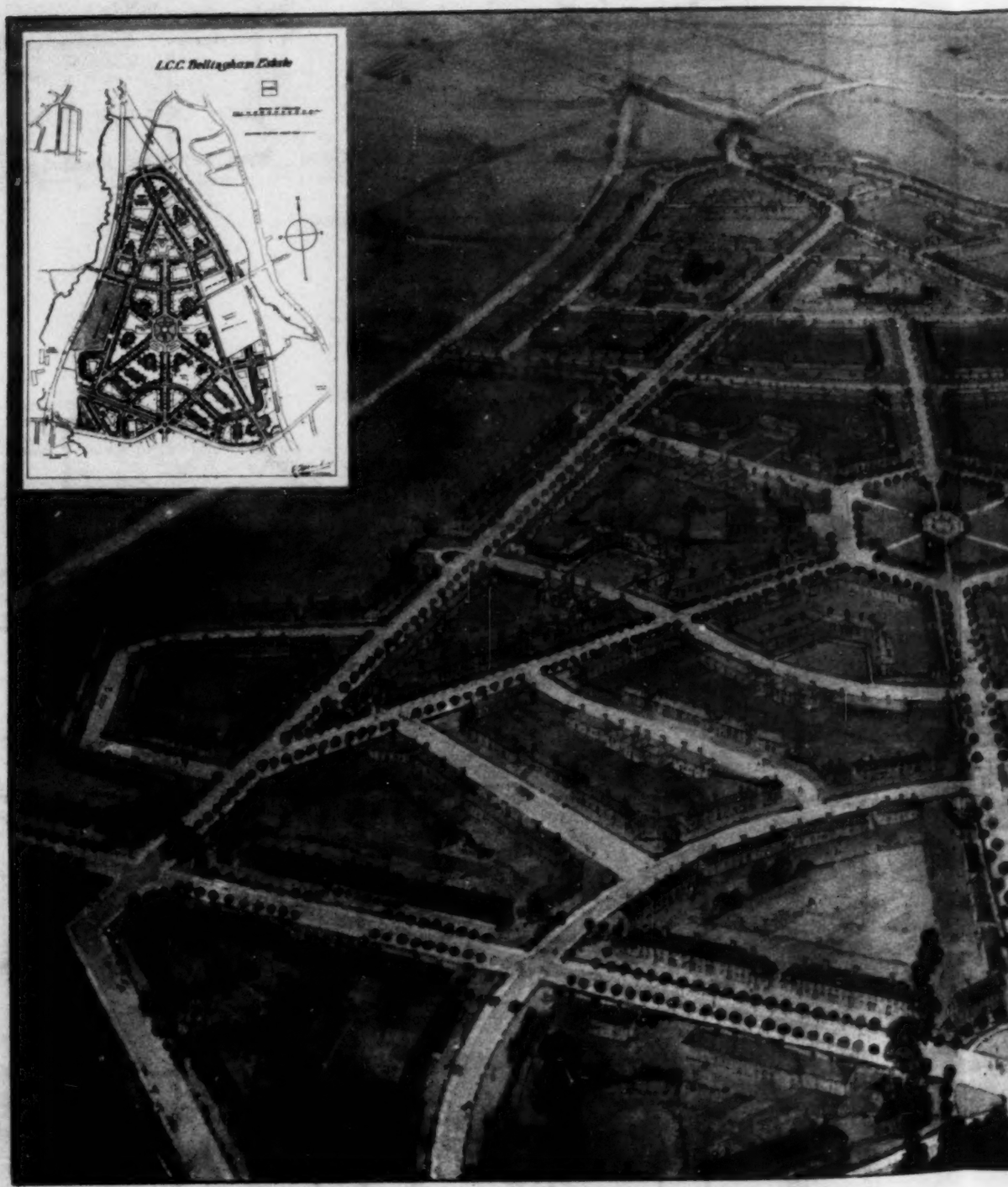
TYPE "Y" (ANGLE BLOCK) 5-ROOM COTTAGE. SOUTHERLY ASPECT.



TYPES "H" (END) AND "J" (INTER.) 5-ROOM COTTAGES. SOUTHERLY ASPECT.

The L.C.C. Housing Scheme, Bellingham.

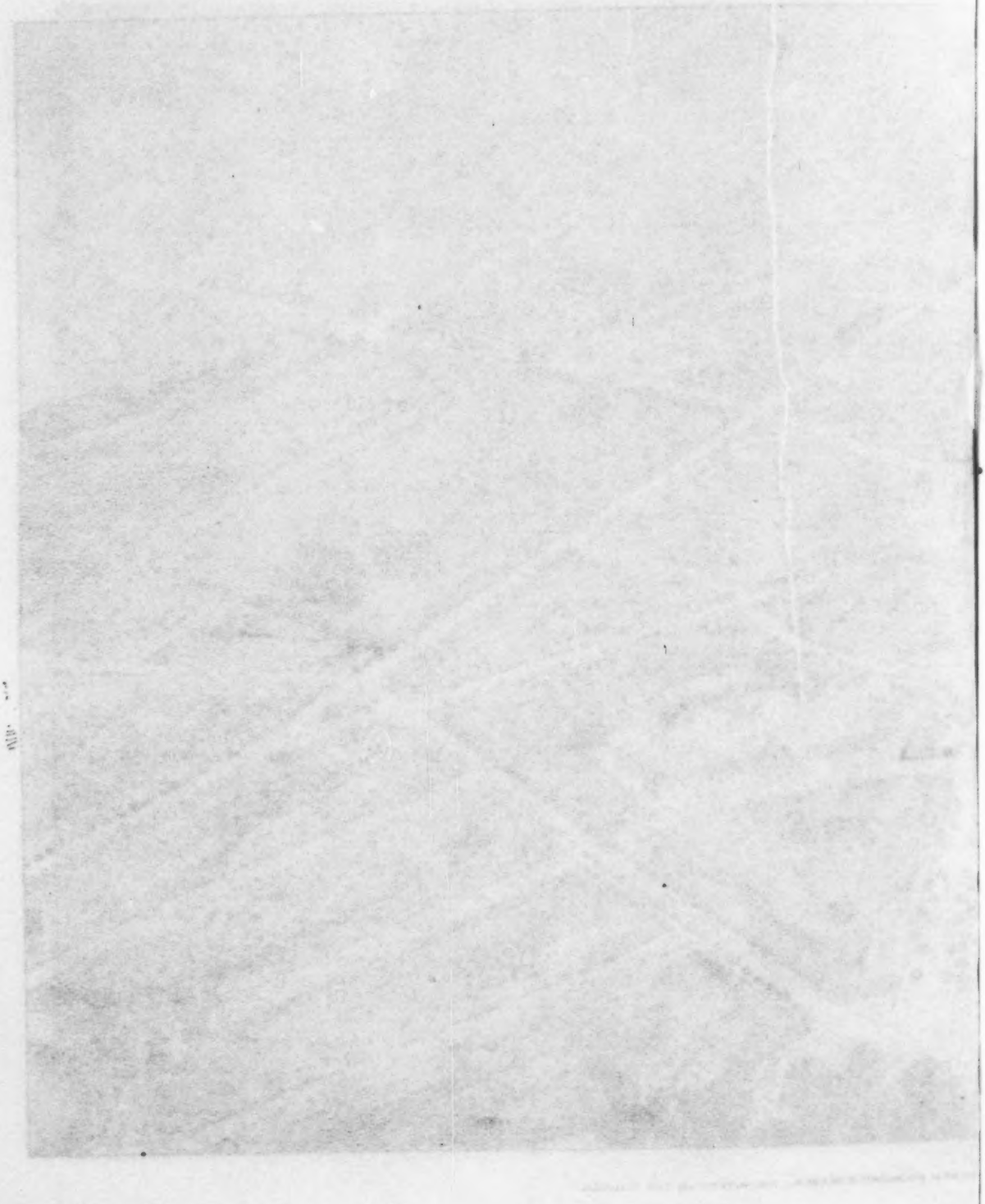
MR. G. TOPHAM FORREST, F.R.I.B.A., Architect to the Council.



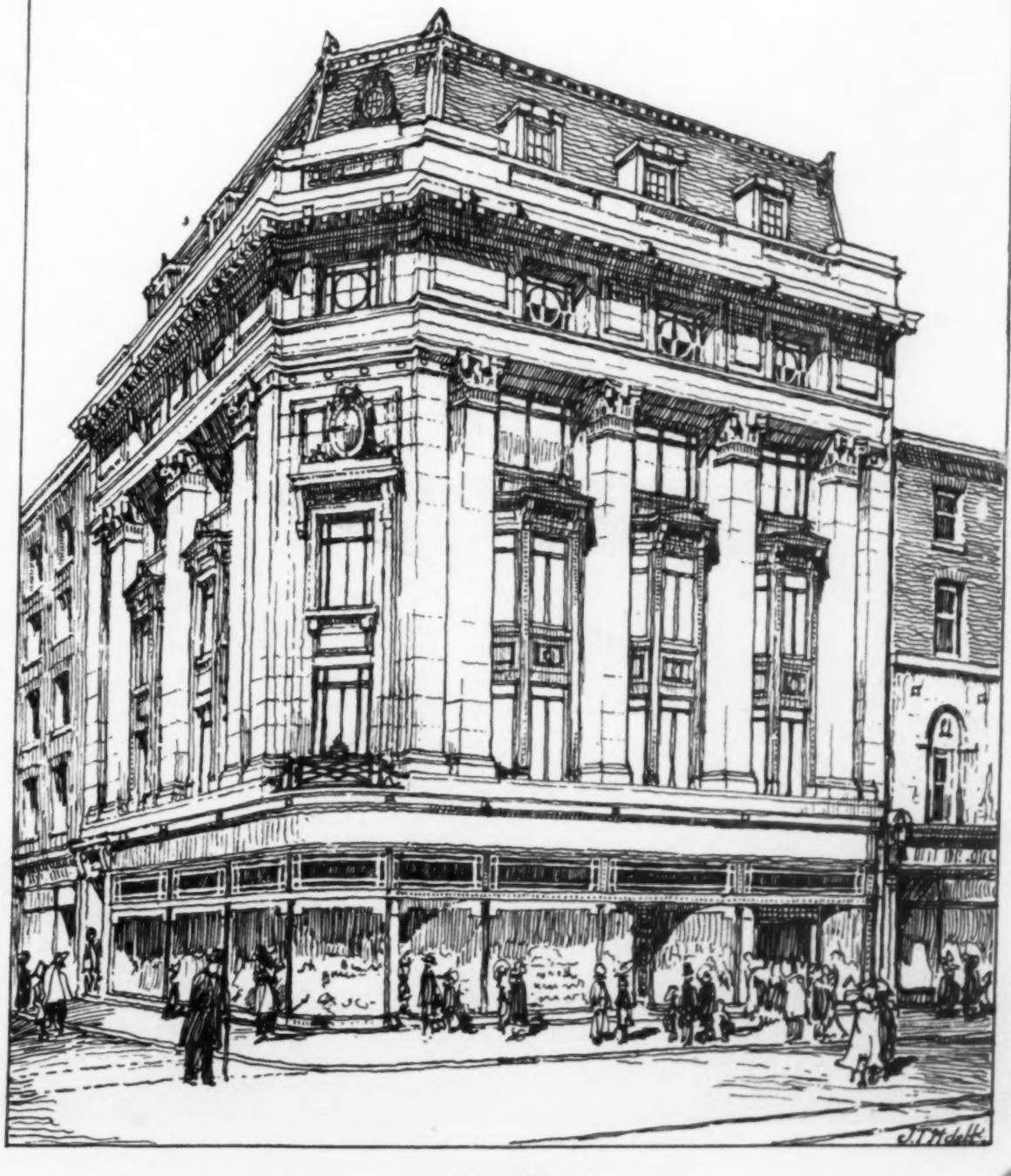
R.A. EXHIBITION.

L.C.C. HOUSING SCHEME, BELLINGHAM ESTATE. Mr. G. T

ATE. MR. G. TOPHAM FORREST, F.R.I.B.A., ARCHITECT TO THE COUNCIL.



BUSINESS PREMISES.
MARKET ST. : MANCHESTER
Halliday, Paterson and Agate Architects.



(*See p.* 370.)

WEST CLIFF IMPROVEMENT SCHEME, RAMSGATE.

The drawings in this competition were assessed by Professor S. D. Adshead and the result is given this week on page 366. The first and second premiated designs by Messrs. Harding Thompson and P. D. Hepworth, Raymond Buildings, and Mr George T. Morris, 37, Chancery-lane, respectively, are given on pages 371 and 372, and below. The competition was for a scheme for the lay-out of the West Cliff (as to a portion thereof fronting the sea on promenades, recreation ground, roads and building plots, and as to other portion in roads and building plots). The Corporation offered the following prizes in respect to the plans, drawings and schemes sent in:—First prize, £300; second prize, £200; and third prize, £100.

We take the following remarks from the Report submitted by the authors of the first premiated design:—

In the plan submitted herewith, the chief factors which have determined the lay-out, apart from the contours and the Canterbury-road, are (*a*) the desirability of presenting as far as possible an unbroken line of buildings facing the sea, with a succession of attractive gardens and recreation grounds along the cliffs; (*b*) The natural beauty of the cliffs and the existing trees; the latter have therefore been preserved where possible to give shelter where they do not interfere with the circulation on roads and promenades. At the same time, if the sea-front is to be treated broadly it is considered that the present grounds of West Cliff House should not dictate the main lines of the plan; (*c*) The advisability of providing a definite traffic connection between St. Augustine's-road and Downs-road (the Sandwich-road).

Anything in the nature of expensive engineering work has been avoided. The natural line of the cliffs has been preserved and the safety of the public has been provided for by:—

(*a*) An iron railing (sufficiently high to prevent children climbing over) at an average distance of 30 ft. from the edge of the cliffs and extending the whole length of the site.

(*b*) At one point where the main promenade is very near the edge of the cliff it will be necessary to cut away the top soil until a firm chalk foundation is reached, and on that a concrete retaining wall must be built, similar to the one on the present West Cliff promenade.

(*c*) On the central axis of the scheme (approximately equidistant between the present West Cliff gardens and the Western boundary), a double flight of 8 ft. granite or concrete steps should be constructed on the cliff face, and supports by concrete retaining walls, similar to the present steps to the beach. Tnese steps would lead down to a narrow promenade, above the maximum high-tide mark, with steps therefrom leading to the beach.

(*d*) The existing tunnel leading from West Cliff-terrace to the foreshore should be increased from 7 ft. high by 4 ft. wide to a width of 7 ft. and a height of 9 ft. throughout its length.

(*e*) Along the whole length of the site, the overhanging top soil must be cut back to its natural angle of repose on the chalk subsoil, to avoid falls of earth such as have happened previously.

The promenade (50 ft. wide) is continued from the present one, as close as safety permits, to the edge of the cliffs without building retaining walls; this allows a grass strip between the main walk and the cliff edge, which might be planted with hardy plants or left as grass, and towards the Pegwell end of the promenade an additional narrow 10 ft. cliff walk is shown.

It is assumed that the recreation grounds will be maintained at the expense of the Borough, and a small charge made. Consequently, although they would be enclosed, they would present an open appearance, and would be linked up with the central grass promenade and band stand. Additional tennis and bowling greens are shown behind the tea gardens at the west (Pegwell) end.

The central grass promenade around the band enclosure is intended to be the central feature of the lay-out, and quite open to the public. It leads up to the central carriage place and the pavilion at the slightly higher level. Two kiosks are shown on the plan for tobacco, chocolates, &c., and an adequate number of small public shelters are provided. A site for a central obelisk is shown, as a focal point for the two radiating arms of the carriage drive.

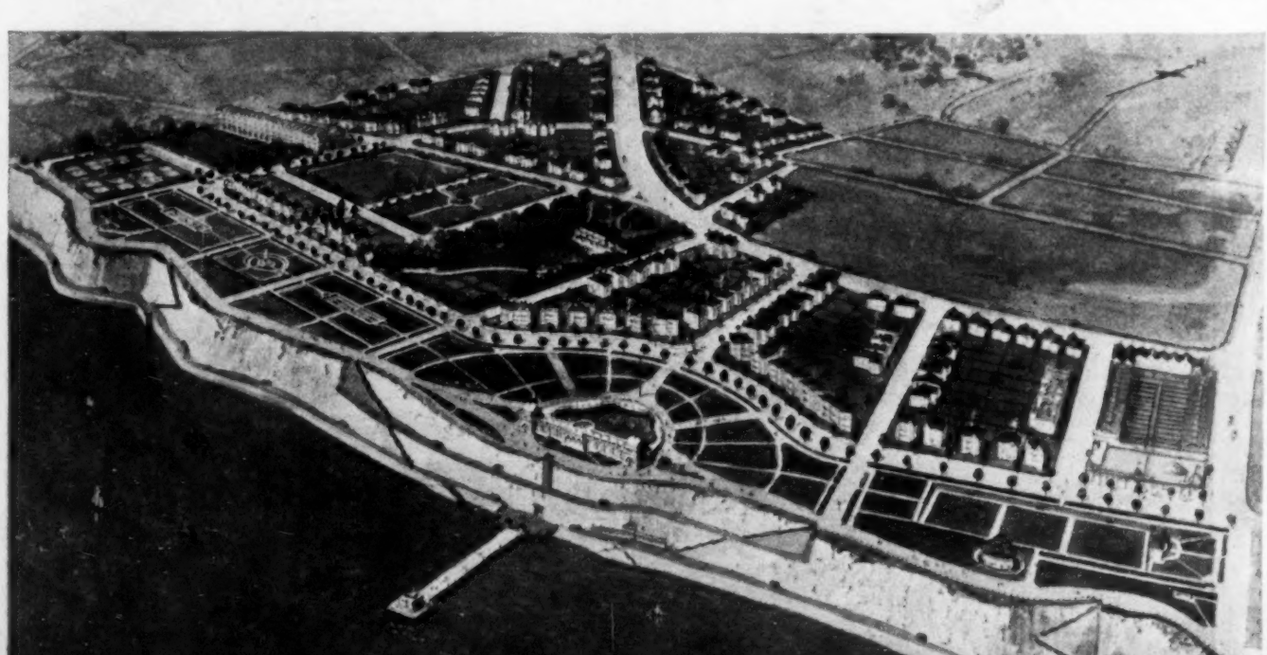
The pavilion has been given the most central site in the scheme, in accordance with its social importance. Besides the concert and dancing hall, there would be reading rooms, lounges and café in the same building.

The minimum of roadmaking is indicated, after providing for access to all houses and recreation grounds. As the new arterial road will serve most of the back plots in addition to taking the "through" traffic, no roads have been shown more than 50 ft. wide over all, and most of the main roads 30 ft. over all. Roads cross at right angles to ensure good-shaped building plots, and an adequate parking place for private cars and taxicabs is shown in the centre of the scheme.

It is suggested that West Cliff House, until demolished, might be let on lease as a private hotel or boarding establishment, or possibly it might be utilised temporarily as a social club. As an alternative scheme, a small plan is inset which shows the house demolished, and the land laid out for sixteen houses.

It is suggested that on the sea-front Ramsgate would do well to carry on the traditional treatment of long terraces with simple stucco façades, so successful in the eighteenth and early nineteenth century work of Hastings, Brighton and other seaside towns, and similar to the best work to be found in Ramsgate on the East Cliff. Consequently provision has been made facing the sea-front for long terraces of flats, boarding houses, and private houses. All land behind the sea-front is allotted to small houses, detached, semi-detached, and in occasional blocks of four or six houses, according to the ground levels and frontage available.

An endeavour has been made by the author of the second premiated design to adapt the



SECOND PREMIATED DESIGN, BY MR. G. T. MORRIS.

estate with a view to the Corporation deriving a maximum income from an economical expenditure, and, on completion, the only portion of the total area from which no direct income would be derived would be the ornamental gardens. In his report he says:—

It is intended that the existing Pegwell-road be widened to 50 ft. and Grange-road to 60 ft. All new roadways, and the extension of St. Mildred's-road, which divide the residential areas, are proposed to be 40 ft. wide. The proposed vehicular drive skirting the front is intended to be 70 ft. wide and will be a continuation of St. Augustine's-road. New road No. 6, also 70 ft. wide, will be the entrance and exit from the new arterial road, and the drive will continue along the front as far as West Cliff-terrace, where it will enter the Pegwell-road.

The main promenade at the head of the cliffs will average 40 ft. wide, and will be a continuation of the existing West Cliff promenade. It will completely encircle the proposed bandstand and enclosure, and there will be direct access to same from all roads south of the new arterial road. A lower promenade is proposed, with an average width of 20 ft. At a distance of 7 ft. above the level of H.W.O.S.T. an esplanade is suggested to run the entire length of the estate and connect up with the existing lower promenade at West Cliff-gardens. Access to this will be made from the main and intermediate promenades, by tunnel on the extreme east, and by electrically-driven lift immediately in front of the band enclosure. Access to the foreshore will be provided at five points. Bathing chalets are suggested in a position immediately east of the lift to provide for male, female, and family accommodation, and will be complete with conveniences, refreshment kiosks, &c. The pier, as shown, is about 100 yards in length.

Shelters would be provided to all promenades and pathways, and public conveniences are suggested to form integral parts of the various pavilions. The area of land between the new vehicular drive and the front promenade would be given up to bowling greens, band enclosure, ornamental gardens and tennis courts. Three ornamental gardens are suggested.

The band enclosure, which is the main feature of the front, will cover an area of approximately 2,650 sup. yds., and will provide for the accommodation of about 2,000 people. The front of this will be separated from the promenade by an arcade, with an upper terrace supported on columns. On the east and west of the arcade it is intended to erect two pavilions from which a semicircular balcony will extend.

Two additional pavilions are suggested at the east and west ends of the front.

The position of the recreation ground has been purposely arranged independently of the front for the benefit and safety of the younger generation who will make use of it.

West Cliff House appears to be in a good state of repair, and as the grounds of the estate are well laid out, well wooded, and provided with beautiful walks, ponds, &c., the author would suggest that the house be enlarged and modernised, and converted into a hydro or hotel.

Building plots have been laid out suitable for houses of rateable values ranging from £80 to £110, according to their position, each plot having an average area of one quarter acre. Provision has been made for 178 plots, and with respect to those with a frontage to the new vehicular drive, they could, if desired, be utilised for the erection of high-class hotels. It is obvious that a shopping centre will be necessary, and this has been laid out on the plot immediately adjacent to Grange-road, separate and distinct from the residential area. A range of 36 shops is shown with an average frontage of 20 ft., but this number could be reduced and the shop premises enlarged according to the requirements of any particular business. These shops would be designed to blend with the construction of the residential property, and it is intended that a range of high-class flats be erected over same. At the front of the shopping centre it is intended to erect a theatre, cinema, and winter gardens; alternatively business premises could be arranged for.

INTERNATIONAL CONGRESS OF ARCHITECTS AT BRUSSELS.

WITH the object of celebrating the fiftieth anniversary of its inauguration, the Central Society of Architecture recently organised an international exhibition of architecture, in addition to its congress. This exhibition, which was held in the rooms of the Egmont Palace, Brussels, was opened on the 5th inst.

According to *L'Independance Belge*, in referring to the American exhibits, "There were on view a very numerous collection of the most typical constructions, palaces, hotels, 'capitols' banks, churches, town and country houses, factories, hospitals, universities, stadia, lighthouses, and shops, which were surprising by their enormous dimensions, for, on the whole, they surpass in size all the vast buildings of the old world. However, the architects of the great republic know, when necessary, how to give intimacy to the interiors of these gigantic structures, so that, on seeing them, one could easily believe oneself transported into those European countries where the architecture has remained what it was in the time of one's grandmothers. One cannot say that the Americans have a style of building of their own. It is not possible to distinguish, in all they have done so far, forms nor an intermarriage of forms and lines, which would give birth to a style peculiar to America. There is, in their work, an association of all styles, but one in which the different elements scarcely commingle. The Americans borrow, one by one, the ancient orders from the Roman period, the Renaissance, the eighteenth century, and the Empire. Lastly, it is the Gothic style on which they have concentrated, and in adopting this they have gone astray somewhat, if one may say so. All the American work is powerful, some of it well balanced, and it always shows daring; but neither carries the impress of invention, nor does it reveal a sensitiveness on the part of its inventors American architects are constructors rather than artists. In their audacity they are very definite; they often are not logical or they would not conceive of a school quad like that of a mediæval cloister, an entrance to a bank like the portico of a Doric temple, nor the booking hall of a station like that of a Roman bath. Everything in their art of building seems abnormal in its æsthetic principles, but it astounds and holds one by its vastness and material solidity. . . . Nevertheless, let not those who are timorous and superstitious in the matter of building underrate the lessons to be learned from these works, extraordinary, often magnificent, and expressive of the will power of the most industrious beings on earth."

Of the French work exhibited, our contemporary says: "The French section comprises in its elegance, its shades, and its superb harmonies, a contrast to the colossal, hard constructions of New York, Boston and San Francisco, for the French architects of to-day, notwithstanding everything, and despite their care for modernism, remain the descendants of the men who created Versailles. This section was, above all, interesting on account of its imposing and solemn monuments to the dead, its projects for the restoration of the ancient monuments, and its proposals for town planning. Other designs and photographs informed one of the expansion of the architectural genius of France over foreign lands, even as far as South America."

The Belgian section included many designs and photographs of buildings of all descriptions, some executed, others under consideration, notably, le Mont des Arts, by J. Caluwaert, and the new St. Peter's Hospital and new University, by J. B. de Win.

Following the opening of the Exhibition, the Congress commenced its work on Tuesday.

The question of the copyright of architects in their work was dealt with by M. Harmont, Judicial Council of Architects of France. He contended that it was necessary to place their rights on the same level as those of artists and writers. This point of view was unanimously endorsed by the Congress.

With regard to the scale of honoraria, this was the subject of a report by M. Moekels, of the Central Society of Architects, who defended the pre-war scale, which fixed the honoraria at an average of five per cent., and in the case of important buildings, of seven to ten per cent. He protested against the regulation of the Belgian government, which reduced to between two and two-point twenty-five per cent. the honoraria of architects charged with work for the State, a measure to which the Belgians had refused to conform; the charges of the clerk of the works had remained relatively the same as formerly. He pointed out that there were other reasons which militated in favour of the maintenance of the old scales, especially the considerable obligations which the architect had towards his client, for the former had only his dues. The architect of to-day studied, more than ever, the aspects of hygiene and comfort. Was it not true that nowadays one gave as much care to the installation of a kitchen as to that of a drawing-room?

The Congress concurred with these views.

The work of the State and municipal architect which had been mentioned in several reports provoked a lengthy discussion. The majority of the delegates were in agreement that the authorities should make application to private architects for the construction of public buildings. The governmental or communal architect became, in the long run, it was urged, "deformed professionally. He develops into a pure functionary, who no longer possesses the qualities of invention, talent, nor all the particular faculties necessary for the conception and realisation of monuments worthy of the name."

The next matter discussed concerned the question of women architects. The American and English delegates (Messrs. John Slater and E. P. Warren) informed Congress that there were a few in their respective countries, and certain of these women had considerable talent. Unfortunately, however, they did not persevere in the career they had chosen, but completely abandoned it on marriage. They agreed that this did not prevent women from being valuable collaborators, particularly in the study and the solution of the domestic problems; living in the house, knowing by experience all its practical needs, women could give advice of considerable utility and of an entirely happy character.

A discussion also took place on "an international concourse." The difficulty was referred to of arriving at a solution on account of the local customs. There are some countries, it was mentioned, where there exists a kind of university diploma which does not exist in others. The architects of these former countries could, by taking upon themselves all the responsibilities and risks, associate themselves with the architects of the latter, but a collective work without a collective responsibility is scarcely conceivable. This protectionism of certain countries in matters architectural is an obstacle to the organisation of an international concourse.

Work at the Palais d'Egmont occupied Wednesday, the three chief themes under discussion being:—

1. The Architects' rights in design.
2. The Profession of Architects, their duties and rights.
3. Town Planning.

Each of these questions aroused considerable discussion. On the question of "cheap dwellings," the Belgian delegates defended the standardisation of material, but the French representatives opposed this view, contending that the standardisation engendered too great a uniformity. It was necessary, by means of differentiation in the appearances of houses, to guard against decreasing their artistic effect.

Emphasis was laid by other speakers on the point that workmen's houses must not be built at the cheapest possible rate, though very cheaply nevertheless.

STREET ARCHITECTURE.—IV.

By V. M. CHRISTY.

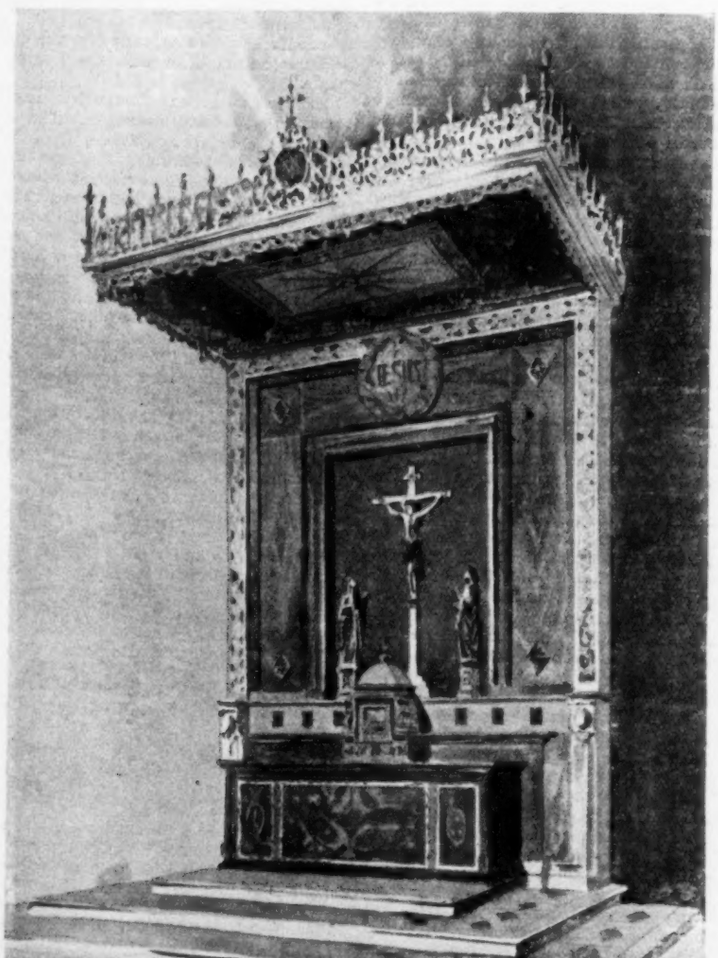
In the present consideration of street architecture it is the general mass rather than the separate parts of a building that is in question. Such things as the actual detail of shop-front design or the merits and demerits of certain kinds of office doorways are not part of the present discussion. It is, however, very much to the point to examine streets where there are many large office blocks belonging to shipping firms, insurance companies, banks, and so on, occupying the ground floor as well as those above, and generally their own specially-designed premises. Such streets, for instance, as Leadenhall-street and Fenchurch-street, or parts of them, have none of the special drawbacks associated with a street façade consisting of shops at the street level and office premises above.

A peep into that pleasant little backwater of Fenchurch Buildings gives one the key to the origin and growth of the new great business buildings that are springing up so fast around it. The fine carved doorheads have been newly done up, and there is a glimpse within of the graceful curve of the staircases trodden in bygone days by cravatted gentlemen doing business there before the tall white building at the end of this *cul-de-sac* grew up with its pale, expressionless face. The new buildings in Fenchurch-street and Leadenhall-street are an interesting study. They attract first by their force, then by their balance, and finally by their detail. There is some very fine sculpture to be seen, harmonising happily with the general mass of a building and helping to express its purpose. Only in a few cases does the decoration run riot, and in just a few others one prefers to examine the symbolical carving rather than the more strictly architectural features. Occasionally, in some of the newest buildings, one feels that perhaps the "test of ridicule" is only passed by a narrow margin, as where a number of seeming clock-weights or bell-ropes hang over the heads of the passing world in what seems a precarious manner. A slight droop in the middle, or something to relieve the tension, would easily produce a safer feeling in the observer. Here and there, too, one has the impression at first sight that certain parts of the ornament are merely rags or bits of sacking tied around projecting members to prevent damage, or even to hold particular parts in place. This impression will doubtless vanish, however, with the scaffolding, and the realism of the sculptured drapery assume the desired rôle of adornment.

The older shipping companies, with their long lines of sober classic blocks, are typical of these streets, and give the cue to the new buildings even when the latter work out their own version of the old type. There is a curious straightness and hardness about some of these which seem to express one aspect of the character of the Age of steel, but one wonders whether there are not other aspects of it that at present find little or no architectural expression, and whose absence tends to produce a cold and lifeless air. For those who feel the chill of this lifeless touch there lies some little consolation in passing Aldgate pump and turning towards Houndsditch with eyes open to the beauties of Aldgate Church, set in a grove of trees, its mellowed brickwork enamelled on a misty autumn morning with red Virginia creeper.

King William-street, almost exclusively the street of big financial firms, is an interesting study of old and new, even though the old here dates only so far back as the building of the present London Bridge. Many of the new buildings have something grim about them. Inside the open jaws one catches a glimpse of dim halls of mystery where high-priests officiate and the uninitiated tremble. Over the way there are the modest, dignified, three-story blocks, two at least bearing the dates 1805 and 1806, and dating from a decade or two later. There seems to be something "human" and inviting about them which is lacking in some of the newer buildings. Somehow the thought of the "human element" seems eliminated as far as possible from the new temples of finance; their character seems as devoid of light and shade as their exterior, where what little light and shade there is seems duly measured, weighed and distributed. One at least of the new buildings here, however, gives promise of variety from this tendency and leans to tradition—there is promise of a glimmer of soul in this which is missed in so many of its contemporaries with greater "originality." Another newcomer, bold indeed, has the temerity to display a Latin motto above its entrance. One wonders whether it is for the benefit of both the old and new school of Latin pronunciation that the motto appears twice over!

Very similar conditions and problems are found in other parts of London. Around Charing Cross, for instance, the offices of various transport companies have the same advantage over the more commercial buildings. But it is also found that a very similar problem confronts the designer of a building for a motor-car firm. Even though the upper floors in this case may be used quite separately from the showroom at the street level, yet the opportunity occurs here of treating the ground floor as an important part of the whole composition with a far smaller risk of its relation to the rest of the building being lost amid plate glass, fascia board, and awning. As proof of this a great new building in Piccadilly frankly presents a triple horizontal composition, whereof the lower, middle, and upper portions are harmoniously related and mutually helpful. The strong effect produced by the round, coffered arcade forming the plinth, the giant order above, with its unobtrusive subdivisions at the various floors, crowned by a simple attic, combine with the appropriate ornament to give a quality to this building which gives dignity to the whole street. It seems also to have caught the live character which is so often lacking. Those who, quite rightly, cry out against the lack of original thought in the buildings of to-day probably feel bound to decry such a very frank adaptation of an ancient Classic type, but there is surely much to be said for preserving traditional types when they can be so successfully utilised. After all, in all branches of art, just as in science, experiments have to be made if there is to be progress. But in science experiments are recognised as such and are usually confined to the laboratories of the scientists. It is not usual for a bacteriologist to test the efficacy of a newly-discovered antitoxin on "the man in the street," nor for a hypothetically economical new fuel to be employed suddenly in a busy city restaurant. This sort of thing would not be tolerated by the public, nor, indeed, attempted by the scientist. And yet that is a parallel to what is continually going on in the realm of architecture, and it is doubtless the only way in which experiments in art can be carried out. The great thing, however, in this as in any other experiment is that to obtain a "reaction" that will be of real value in the path of progress the thing or the person upon which the experiment is made must be properly "prepared" for it. The reaction of modern architectural experiments upon the public is not always either reliable or accurate, because the public is not always in a condition favourable to the success of the experiment.



R.A. EXHIBITION.

The High Altar and Reredos, St. Michael's, Shoreditch.
MR. J. HAROLD GIBBON, Architect.

BOOK REVIEWS.

A Text-Book of Wood. By HERBERT STONE. (London: William Rider & Sons, Ltd.) Price 21s. net.

This class-book for advanced students contains a vast and varied amount of detailed information, arranged in four parts in a single volume. The book opens with an account of the grosser structure, the surface, smell, taste, and contents of wood, and deals with the subject in a much more minute fashion than is usual in technical works which aim at assisting the busy practical man with a few useful hints on the purchase of building material. The second division contains a description of the tissues and explains the mechanism of the tree's growth in so far as it affects the finished product and the processes of seasoning by which the green trunk is converted. Part 3 combines a description of the mechanical properties of timber with an onslaught upon those engineering formulæ which treat wooden beams and posts by algebraical science as if they were of uniform character in all parts. The author quotes the results of breaking-tests on beams, which go to show that the strength is not, as commonly accepted, in inverse ratio to the length. Beams are far from uniform in internal structure; the extent to which the annual rings of the tree have been cut and their position in the beam in regard to the supports and the application of the load affect its strength, apart from any consideration of the fact that increased size brings with it increased risk of serious, if hidden, defects. According to the author, the constants listed cannot be applied indiscriminately to beams of different sizes, since extra length very materially decreases the strength of the beam. Practically speaking, it is doubtful whether exact knowledge of the variations of the constant in test specimens can assist the builder, for however many lists of figures he consults, the actual piece of wood he proposes to use will not be the one tested, and he has to fall back upon a liberal factor of safety to cover any possible deficiencies. A man of experience realises that where so many different figures are given for the strength of similar beams there is no course for him but to choose the cautious path and rely upon the lowest tabulated result. In timber-testing, as in gold-assaying, the man of science who conducts the test merely states certain facts concerning a given specimen, but there is room for manipulation of the results by choosing the richest or soundest specimens for the test in order to create a fictitious value in the goods to be sold. The timber merchant and the builder, therefore, read the published results in the light of worldly wisdom.

The descriptions of variation due to size are a contribution, however, to a lucid theory of the subject, and will be of interest to all students and users of wood. The fissibility of wood is discussed at some length, since by a system of cleavage a great economy is effected, no substance being lost in sawdust. Moisture affects the capacity of wood for splitting and also its resistance to other forms of strain, so that it becomes necessary to know whether the listed strengths have been prepared from specimens containing as much moisture as the beams or posts are likely to absorb in practice.

The mysterious quality of elasticity receives attention in a long paragraph, where some curious data are given as to the practical application of elastic woods for shock absorption under railway lines or for the spring action of a fiddle-bow. The qualities of resonance and conductivity of sound are given a whole chapter, the different woods used in the construction of musical instruments being described at length. In a fourth section of the book the question of figure in wood and the natural processes of its production make interesting reading, and the chapter on decay and durability is full of information of the utmost practical importance.

The plates include many excellent photographic illustrations of different specimens of wood. Some are reproduced to a scale slightly reduced from full size, and others are subjected to a considerable degree of magnification in order to exhibit the cellular structure of the material. A chapter on laboratory practice, an index, and bibliography are included, and add to the usefulness of a very thorough and conscientious work.

Heat. Part I. By G. THOMPSON and G. H. LESLIE. (Cassell's Library of Applied Science, 1922.)

This is a useful little book of 160 pages, in which it is sought to forge another direct link between science and industry. In these days when the great lessons taught by the war as to the necessity for science, and more especially an appreciation of natural science, are becoming misty under "economy" campaigns, every effort to bring science and industry closer together is valuable. We consider that the authors succeed in their purpose. Departing from the conventional methods of the usual text-books, they practically ignore laboratory experiments and the exposition of theory, and deal with the different effects of heat by taking as illustrations its various industrial applications. Opening chapters on solar and earth heat are followed by accounts of fuels and their uses illustrated by boilers and engine parts. Electrical and mechanical productions of heat are illustrated by such things as sparking plugs, cooking stoves, and brakes. Expansion is next dealt with, and only half way through the book are we introduced to "temperature." Among other illustrations in this section is one of an optical pyrometer, while a little chapter is devoted to "distance thermometry," to give central control. The final chapters deal with heat transmission. With its 112 illustrations, many very live and interesting ones, this is a book which any intelligent person can read with pleasure and profit. Messrs. Cassell's rôle in this field is an old one, and we wish every success to works of this character, unacademic though they may be.

Low Ceilings. By W. DOUGLAS NEWTON. (D. Appleton & Co.)

An enquiry through the correspondence columns of any of our weekly journals for a list of novels dealing with architects and architecture will result in a list which would surprise many members of the profession. It is true that a great amount of reading is entailed for very little result, and if it seems hopeless to expect that a knowledge of architecture can be absorbed from the novel there is always a possibility that an interest in architects might stimulate some interest in architecture. The architect in fiction has generally received less than justice, while the client, too often, has escaped the criticism which he deserves. In this book, dealing with the fortunes of a young architect, the author through his title "Low Ceilings" conveys the idea of the cramped, stuffy life, the snobbery and affectation of the average "low-ceilinged suburban home life." This portion of the book is handled very successfully, but, in our opinion, the subtle meaning conveyed by the title is metaphorical, and we should have thought that the conventional Victorian attitude followed the fashion of "high ceilings." This may seem hypercritical, but, at least, it is logical in the sense that the fetish for height in rooms became as canonical and out of proportion as the conduct of the occupiers. We doubt if the author is intimate with the routine and the details of an architect's office, and architectural designing is treated as if it were more a matter of inspiration than the result of actual training and knowledge. The ability of this young architect is not sufficient in itself to keep pace with his ambitions, and his capacity for design is affected by the influence of two women. The struggle for supremacy over him of these two opposing personalities produces alternating periods of success and failure in his designs for cottages and model houses. The temperamental attitude and its effect upon design will not be taken too seriously by architectural students; nevertheless, the idea forms the basis of a very readable novel. It is a change to read a book which deals with an architect who is something like other men, instead of the usual caricature of an architect, who is always something of a humbug.

Votarial Verse and Arabesques. By PHILIP ROBSON. (Manchester: Palmer, Howe & Co.) Price 5s. net.

It is sometimes the case that when a painter leaving his brushes takes on another job—it may be building—he will do something very interesting and unexpected. So when, as in the small volume before us, an architect presents us with his excursions into another field, far from deprecating his enterprise we anticipate the discovery of something of value. The prospectus tells that this is a book which architects, artists, musicians, and violinists in particular, will enjoy; hockey players will find a sonnet on the game, "thinkers will value the intimate religious thought," all of which stimulates further interest and curiosity. The book is illustrated with photographic reproductions of different examples of craft-work in the possession of the author, on which he evidently sets a high value. The verses, however, do not touch human life anywhere very nearly, suggesting rather the industry of relaxation than of inward necessity. In what is entitled a "Postlude," we are told that this book was published to avoid sending copies in script to friends who wished to read them. When sent for public review, however, they are rightly subject to a scrutiny which can take no account of intention, or the wishes of friends, and we are afraid the author has little ear for rhythm. While claiming the Latin ancestry, he has no richness of vocabulary, strange words and unaccustomed phrases being quite another matter. We prefer to see the common language "understanded by the people" lifted, in the hands of the poet to the significance of art, rather than to depend on the dictionary; and there is too much of the latter. He gives us two excellent Latin examples, one a hexameter and the other a pentameter, in his notes, yet he has never caught the swing of their rhythm in his own lines, nor would a Latin poet in the best period have permitted the use of so many small adverbs at the end of lines. While recognising the sincerity of aim we denote a lack of ear to perceive when a line is verse or not, as in the following, "Winged Time":

"God's gift to use or waste ever striving,"

and again in "To a Pupil":

"Of past masterpieces and thence derive."

In the latter the writer had only to reverse "past masterpieces" into "masterpieces past" to lift it out of prose, but the sense of the cæsura is wholly lacking. The verses are not left to speak for themselves, but are offered in a rather provocative manner, as we have already noted in referring to the prospectus. They are explained by copious notes, and the author tells us that the Italian sonnet does not suit our character. We would refer him to Keats, Matthew Arnold or Rupert Brooke to substantiate such a statement. Mr. Robson has more of the manner than the matter of verse, and mistakes the shadow for the substance. He complains of the "little gritty one-syllable Saxon words" when others more naturally hit his mood, yet some of our most beautiful, sweet-sounding words are Saxon. Is not the Latin *nil* also a little gritty word? and why does the writer use little Saxon words, as in "St. Michael," if such is the case?

BOOKS RECEIVED.

THE CATHEDRAL CAUSEWAYS OF CHICHESTER, WELLS, LINCOLN, DURHAM, PETERBOROUGH, AND WINCHESTER, by respectively Hubert C. Corlette, Rev. Percy Dearmer, A. F. Kendrick, J. E. Bygate, W. D. Sweeting, and Philip W. Sergeant. (London: George Bell & Sons, Ltd.) Price, 2s. each.

ILLUSTRATED HISTORY OF FURNITURE. 7th edition. By Frederick Litchfield. (London: Truslove & Hanson.) Price, 36s. net.

THE ARCHITECTURE OF ROBERT AND JAMES ADAM. By Arthur T. Bolton. (London: Office of *Country Life*.) Price, £8 8s. net.

SOLILOQUIES IN ENGLAND. By George Santayana. (London: Constable & Co., Ltd.) Price, 12s. net.

HET MODERNE LANDHUIS IN NEDERLAND. By K. Sluyterman and A. J. Van der Steur. (The Hague: Martinus Nijhoff.) Price, 20 gld.

HOUSING AND HUT CONVERSION.

A CORRESPONDENT writes as follows: "The President of the National Federation of Building Trades Operatives, speaking at Bangor, argued that the £100,000 per week now (as he asserted) paid in unemployment doles to building trade workers would provide ten thousand houses per annum if expended in wages for productive work, and at once reduce to a large extent the misery involved by idleness. In the same breath the speaker declared that a million houses were wanted, which would take twenty years to erect if 50,000 instead of 10,000 houses per annum are undertaken in addition to what are now in hand.

Few are in a better position than the President of the N.F.B.T.O. (if he carefully considers the question) to understand and appreciate the fact that only a very limited and unequally distributed number and classes of the building trades are affected by building of cottages. Digging foundations, concrete, bricklaying, rough carpentry, simple joinery, slating and tiling, with a moderate amount of plumbing work and plastering, pretty well exhausts the list of services required and indicates the trades affected. Meanwhile, a very small proportion of the homes so urgently needed can be provided. Following closely on the heels of a devastating war, one can understand, even though it be hard to forgive, the reckless promises and futile attempts of Ministers to provide the "Homes for Heroes" so obviously needed and so well deserved by those who had fought for us and which were so persistently clamoured for by the popular press.

Thousands of tons of official instructions were issued bearing upon the design of cottages—in apparent ignorance of the fact that thousands of architects were familiar with all (and more than all) that these pamphlets set out to teach; thousands of appointments—many filled by men who had never seen a brick laid—were created to organise control, and thoroughly confuse what might have been the simplest matter in the world if left to professional bodies to arrange; millions of pounds spent that can never be recovered on any economic basis; and lastly, a complete breakdown, with heroes, not only still homeless, but actually, in a multitude of cases, without sufficient work to earn enough to pay the price of a bed.

And all this time in camping grounds all over the country, huts were allowed to remain unutilised, or, worse still, gradually rotting through the want of sufficient executive ability to formulate a scheme for their immediate conversion to temporary homes. These huts could have been dismantled and re-erected wherever they were needed, at a cost of about £250 per cottage; and a well-considered scheme of permanent cottages to replace them spread over a period, say, of twenty-five years, would have afforded plentiful employment in the present for unskilled workmen as well as for the trades enumerated above. Indirectly—or rather, arising directly from such a scheme—there would have been no extravagant rise in the price of certain materials; rates and taxes need not have been so crushing; and private enterprise could have afforded to put in hand schemes bringing employment to the highly skilled artisan.

It is questionable whether these huts should not be given free of cost to municipalities and urban authorities for these emergency homes, as they have already, at the rate of 1d. per man per day of occupation, amply repaid their initial cost.

But the important fact is that the provision of these homes, at a reasonable and economic rental, saved Wilton the necessity of building an equal number of brick cottages, which would have taken three times as long to erect, been less roomy, and cost (with roads, &c.) about four times as much. Long before these cottages have perished, prices (let us hope) will enable them to be gradually replaced and their number augmented."

In view of these remarks, we give below a hut conversion scheme lately completed at Wilton, near Salisbury. We understand that these cottages are let at seven shillings and sixpence per week—or an annual total rental of £18 10s. per cottage, upon an expenditure of about £4,200. The sum expended includes £650, the amount charged by the War Department for the huts. As this amount, it is contended, returns to the tax-payer, it should not be debited.

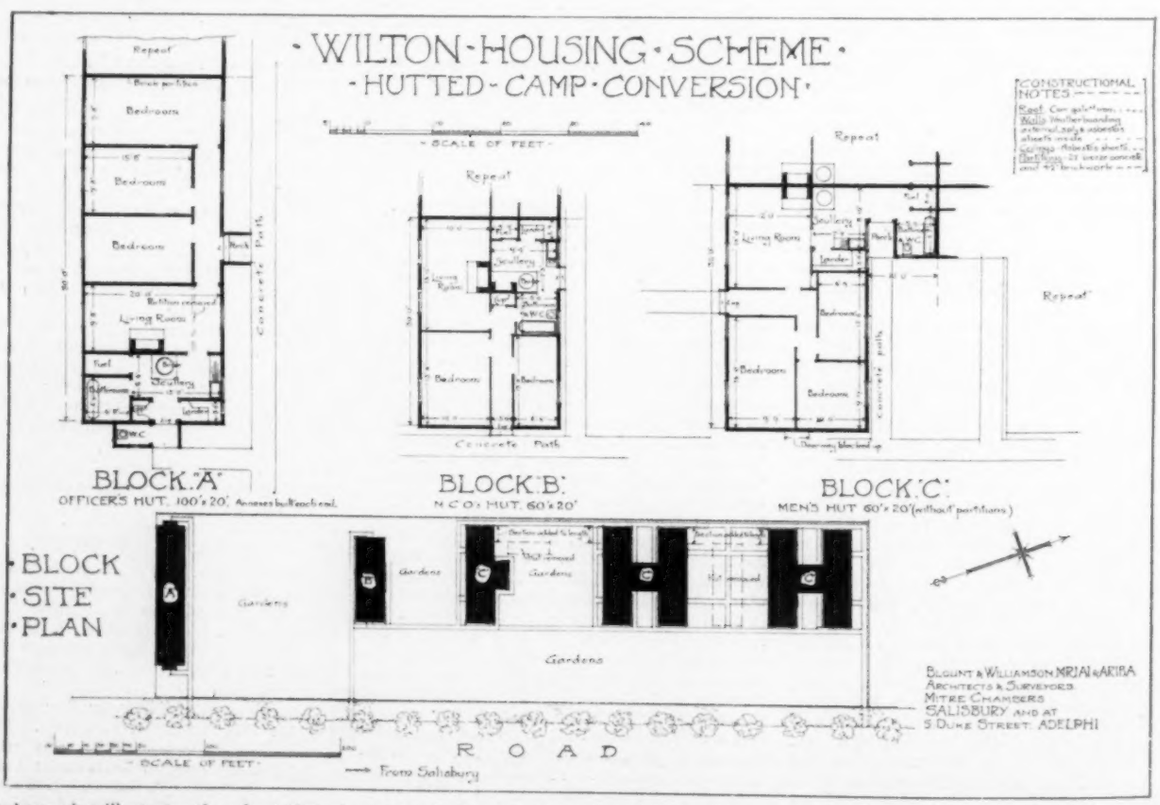
HOUSING AND TOWN-PLANNING NOTES.

Town-Planning Tour of Paris.

In connection with the conference of the International Garden Cities and Town-Planning Association to take place in Paris on October 21 at L'Institute d'Histoire de Geographie et d'Economie Urbaines, a series of short tours is being arranged. The municipal housing schemes in Paris will be visited as well as the Cites Jardins in the Department of the Seine, showing the new housing movement in France. The historical development of Paris will be studied and the achievements in town-planning from the time of Hausmann. There will also be tours to Versailles and Chartres.

The whole visit will last from Friday, October 20, to Saturday, October 28, and the inclusive charge from London, including all fares, hotel, &c., is £14 10s.

Particulars may be obtained from the Organising Secretary, International Garden Cities and Town-Planning Association, 3, Gray's Inn-place, London, W.C.1.



[The above plan illustrates the adaptation of a small standing camp to provide economically and swiftly a number of cottages. Plans were prepared by Messrs. Blount & Williamson; and Mr. Jenkins, of Salisbury, was the builder. Between October 10, 1921, and January 16, 1922, the fourteen cottages were completed, the total cost of the actual conversion, inclusive of drainage, paths, gas and water supply, being approximately £3,500. This amount will be further reduced by the sale of surplus material—the tender originally being based on the utilisation of old material for the partitions, whereas these have been built of 2½ in. breeze blocks. In reconstructing, the material for the additions was chiefly procured from one "Men's Hut" and from hutting that could not be advantageously disposed of for re-erection. With the exception of the party wall between the cottages, which is half-brick in cement, all the new partitions are of breeze blocks.]

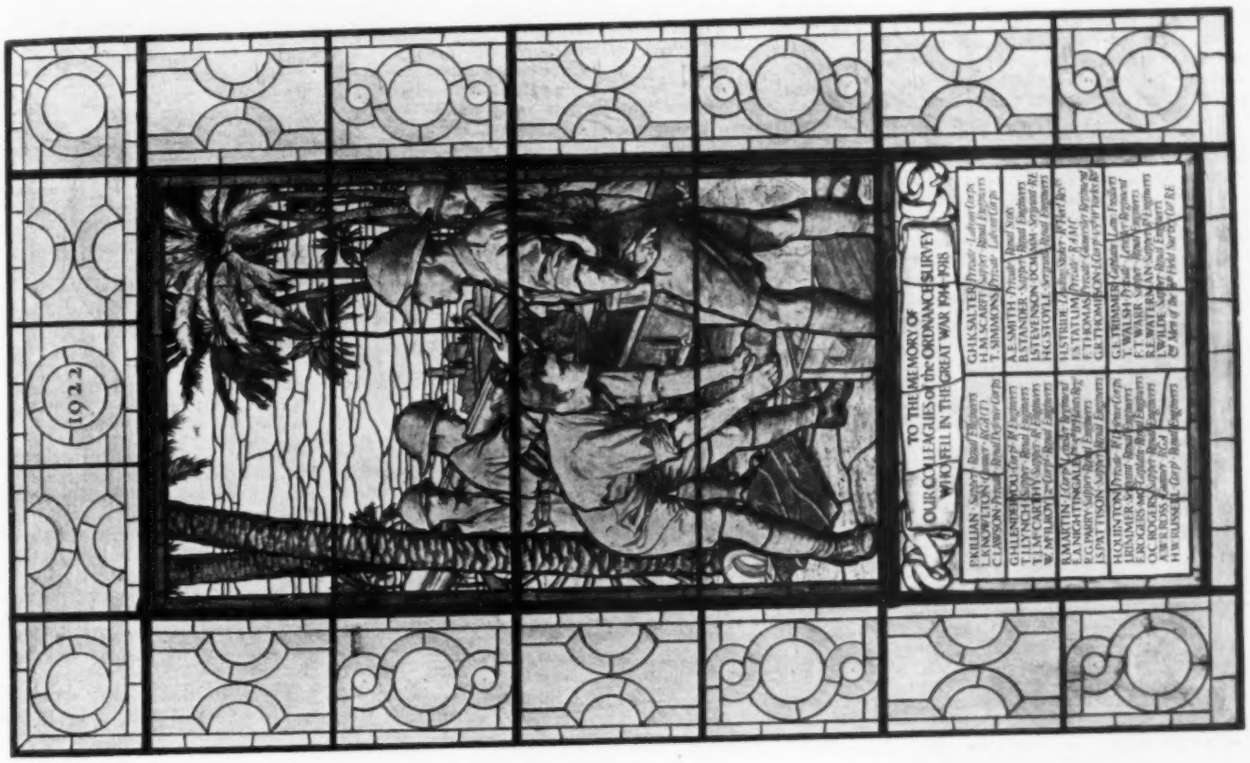
ORDNANCE SURVEY STAINED GLASS WINDOWS.

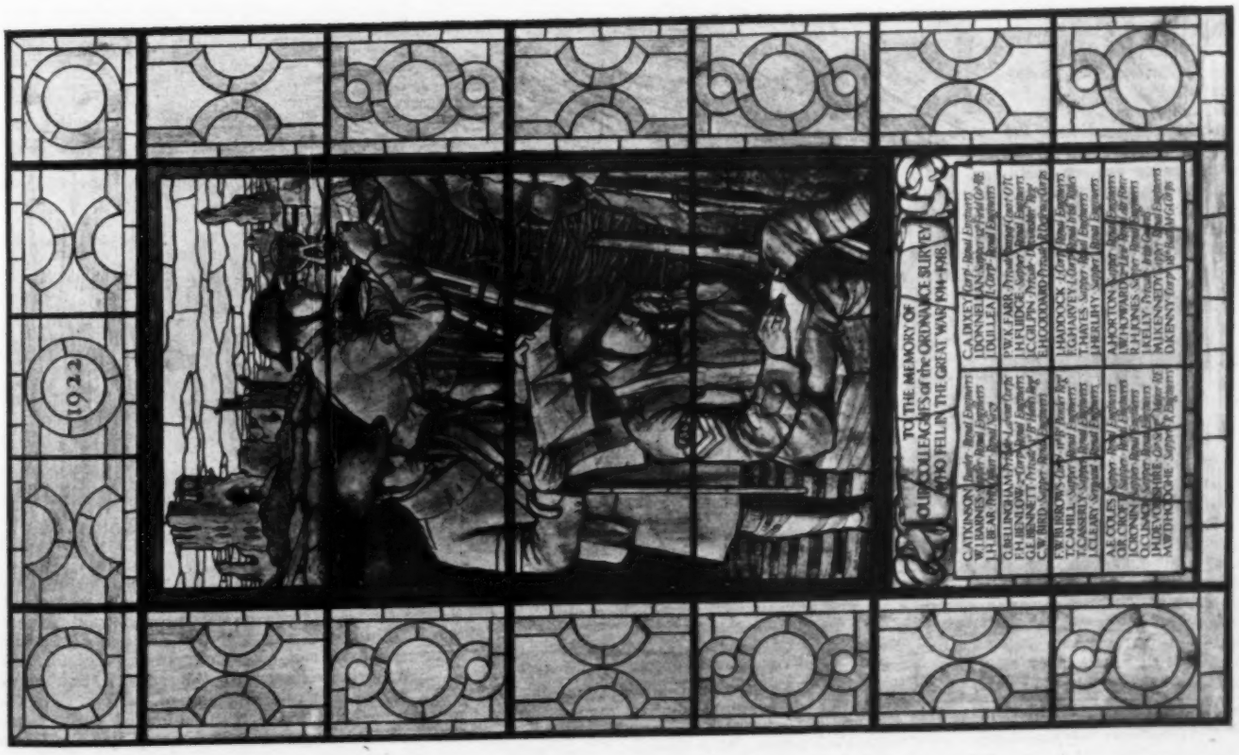
We reproduce two stained glass windows which were recently unveiled by the Minister of Agriculture, Sir Arthur Griffith-Boscawen, in the library of the Ordnance Survey, Southampton. The windows were the gift of the staff of the whole of the Survey Ordnance in the United Kingdom, and were erected to commemorate 67 members of the staff who lost their lives in the war, and whose names appear on the glass.

The scenes depicted are of some of the men in the trenches in Flanders, with the Cloth Hall of Ypres in the distance; the other of men loading the guns in Palestine, with a background of palm trees and an aeroplane in the sky.

Attention has been given to reproducing, as accurately as possible, every detail of uniform and equipment, &c. In each window a special feature is made of maps, to illustrate the work of the Ordnance Survey.

The initial designs for the two subjects, together with the general scheme of colouring, and also the full-size cartoons, were the work of Mr. Ellis Martin, an artist on the staff of the Ordnance Survey at Southampton, and the execution in glass was carried out in the studios of Messrs. A. O. Hemming & Co., under the personal supervision of Mr. R. H. Corbould.





Ordnance Survey War Memorial, Southampton.

ELECTRIC LIFT EQUIPMENT FOR MODERN BUILDINGS.—VI.*

BY RONALD GRIERSON, A.M.I.E.E., A.M.I.Mech.E.

MOTORS (CONTD.); MAGNETIC BRAKES; CONTROLLERS.

Direct Current Motors.—The majority of direct current motors, whether excited by means of a shunt or a compound winding, are fitted with commutating poles to ensure sparkless commutation (in either direction of rotation) at full load or at the guaranteed overloads, and quick reversals (Fig. 43).

Direct current lift motors are of two general types, i.e. (*a*) fixed speed, (*b*) adjustable speed.

Fixed speed machines are used for goods and for passenger lifts on which the load speed does not exceed two hundred feet per minute. If they are fitted with a compound winding (shunt and series field combined), the series field, which should represent from ten to twenty-five per cent. of the total ampere turns on the main poles of the motor, is used only for starting and is frequently cut out in two steps in order to ensure a constant speed characteristic for the motor. To reduce the speed in order to ensure accurate stopping at landings, resistances may be inserted both in series and in parallel

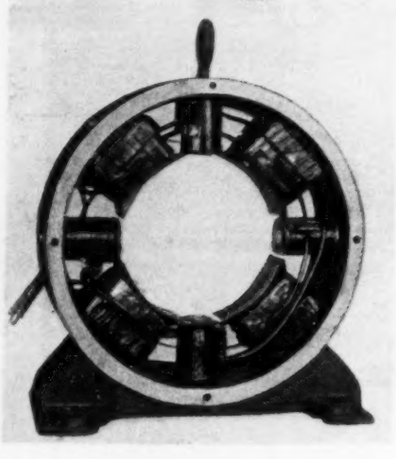


FIG. 43.—FRAME OF DIRECT CURRENT MOTOR. SHOWING MAIN FIELD COILS, AND COMMUTATING, OR INTERPOLES, IN PLACE.

with the armature, the process being termed dynamic braking.

Adjustable speed machines are used for passenger installations with car speeds of two hundred feet per minute or above and usually have a two-to-one speed adjustment. They are generally shunt wound and are started with full shunt field, thus giving the maximum torque. The starting resistance is then cut out at a rate that keeps the starting torque constant.

DATA OF TYPICAL ADJUSTABLE SPEED LIFT MOTORS.

B.H.P.	Max. Speed with Full Shunt (R.P.M.).	Running Speed Shunt Field Control (R.P.M.).
10	450	600/900
15	425	567/850
20	425	567/850
25	425	567/850
30	425	567/850

Adjustable speed, shunt wound motors are advantageously equipped with a short-circuited damping winding on the main poles in order to ensure smooth acceleration by opposing any sudden changes in the field strength. Also it is essential that this type of motor be designed to operate with stable field conditions when running with a weakened field, otherwise hunting, or a condition of synchronous speed variation above and below the normal may develop, a fault with which ventilating engineers are not unfamiliar.

A disadvantage of the two-speed motor is that for the same horse-power and maximum speed it must be somewhat larger and more expensive than the single-speed motor.

Alternating Current Motors.—Alternating current lift motors have always been regarded as the *bête noir* of the lift industry, but with the increasing utilisation of the three-phase system for the distribution of electrical energy, more time and attention have been devoted to the problems involved, on both sides of the Atlantic.

Alternating current motors may be classified into two main types, *i.e.* :—

(*a*) Three phase.
(*b*) Single phase.

Three phase motors for lift work are invariably of the induction or asynchronous type, as with this class of supply designers of induction motors have been able to obtain a fairly satisfactory starting torque, for a starting current which need not be unreasonably excessive.

The synchronous speed, or the speed of the revolving magnetic flux, is fixed for a given design of motor and a given frequency of supply. When the supply is given at fifty periods or cycles (written $\sim$), the possible synchronous speeds, in revolutions per minute, depend upon the number of poles in the machine, and for various machines are as follows :—

POSSIBLE SYNCHRONOUS SPEEDS OF A 50 PERIOD INDUCTION MOTOR

Pairs of Poles.	Speed, R.P.M.
1	3,000
2	1,500
3	1,000
4	750
5	600
6	500
7	428

The difference in speed between the revolving magnetic flux in the stator or primary circuit and the speed of the rotating shaft is termed "slip." Slip at no load is a minimum, and increases with the load.

It will be understood, therefore, that variations in the car speed must be obtained by varying the gear ratio and the diameter of the driving sheave or drum. If the latter happens to be fixed by other considerations, the selection of car speeds is rather limited, since the motor speeds which are found most convenient are of the order of 1,000, 750 or 600 r.p.m. or, allowing for slip, 960, 720 and 575 r.p.m.

There are two types of three-phase induction motor, *i.e.* :—

(*a*) The squirrel cage motor.
(*b*) The wound rotor motor.

Unfortunately, squirrel cage motors are not popular with Central Station engineers in the large sizes, as they require two and a half to three and a half times full load current to develop one to one and a half times full load torque and, therefore, cause excessive fluctuations of pressure, when the current is drawn from a combined lighting and power system. In America this type is extensively used up to 20 h.p., because of its simplicity, and because it only requires a relatively simple form of

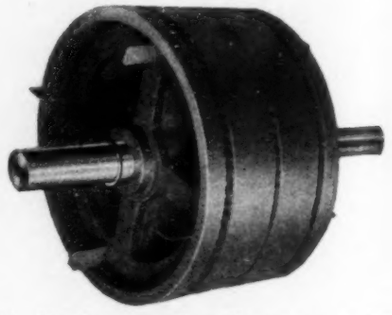


FIG. 44.—SQUIRREL CAGE ROTOR OF AN A.C. INDUCTION MOTOR.

controller (Fig 44). It is frequently thrown across the line, without any starting resistance at all. Where smooth acceleration is essential a resistance or reactance is connected in the stator circuit and gradually cut out after starting, but the speed regulation is not so good as with the wound rotor type.

Wound rotor, or slip ring motors, develop high starting torque (full load with one and a-quarter times full load current) without drawing excessive currents from the line (Fig 45).

Experience indicates that a car speed of 200 ft. per min. is also the limit for single speed alternating current motors, because no slow-down effect can be obtained under the varying load conditions met with in lift service, and no dynamic braking is at present available to assist the mechanical brake in bringing the car to rest. This means that the magnetic brake must be depended upon to do the work. Since the energy stored in the moving mass is, according to the well-known expression—

$$\frac{WV^2}{2g} \text{ or } \tfrac{1}{2}\,MV^2,$$

the ideal brake calls for a design based on a similar mathematical principle.

In the dynamic brake, where applicable, the energy is dissipated in the form of heat, the production of which is proportional to the square of the current (I^2), the current for a fixed resistance being proportional to the voltage and this again is proportional to the speed of the armature. It is, therefore, an important factor in the smooth and rapid retardation and stopping of the car. On the other hand, the mechanical brake is capable only of absorbing energy in direct proportion to the

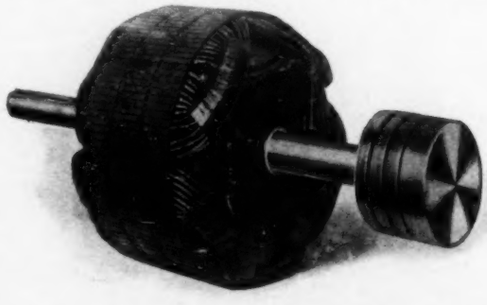


FIG. 45.—WOUND ROTOR OF AN A.C. INDUCTION MOTOR.

* The last article of this series appeared in our issue of August 11.

velocity of the moving mass, and hence is not so satisfactory for the present purpose.

Recent work has produced an adjustable speed induction motor which in certain cases has two stator windings, but in other cases has one stator winding which is reconnected to give a range in speed control

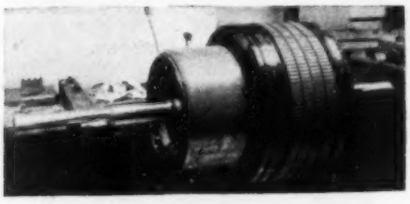


FIG. 46.—ROTOR OF SINGLE PHASE REPULSION TYPE MOTOR.

Another method of obtaining adjustable speed control is by the utilisation of two motors mounted on the same shaft, the smaller of which may be of the squirrel cage type for slow speeds, and the larger may be of the slip ring type for the higher speeds.

Latest information indicates that the limiting car speed for lifts operated by three-phase motors has been forced up to 350 ft. per minute, but there is no reason to think that finality has been reached, and it is not improbable that further developments may be announced at any time.

The ordinary commercial asynchronous or induction motor, to operate on a single-phase supply has not yet reached the stage where reversibility and good starting torque can be obtained, and writers on lifts or elevators have, hitherto, almost invariably avoided the subject.

Another type of single phase machine is available, termed a repulsion motor, and this has good starting torque but bad inherent speed regulation. It is, in fact, similar in character to the direct current series-wound motor, and is fitted with an armature, commutator and brush gear, but in this case the brush gear is short circuited and is not connected to the external circuit (Fig. 46). As in the case of a series-wound d.c. motor, the speed is a function of the load and should the load be entirely removed the speed may become dangerously high, due to the fact that the torque increases considerably faster than in direct proportion to the current. One method adopted for utilising the valuable feature of good starting torque and of avoiding the unsatisfactory characteristics of this type of motor is to fit a governor to the armature or rotor shaft; that, at the point of synchronous speed, connects all the commutator bars together, and at the same time throws the brushes out of contact with the commutator, producing practically a squirrel cage single-phase induction motor which then runs slightly below synchronous speed.

If the brushes of the plain repulsion motor, first described above, are shifted into various positions relatively to the stator coils, the motor can be caused to rotate in either direction or to stand still, when the stator windings are connected to a source of single-phase power. In other words, minimum torque can be produced in either direction, or zero torque can be produced at will, merely by shifting the brushes.

This principle has been applied very successfully in practice by Messrs. Berkeley & Young, Ltd., in their well-known "Bandy" motor. With this machine practically constant speed can be obtained by means of an automatic governor that regulates the position of the brushes relatively to the stator windings, whereby the torque developed is just sufficient to balance the load. Any increase in load tends to produce a fall in speed, whereupon the governor will rock the brushes into a position of increased torque (*i.e.*, further from the neutral point or position of zero torque) and the speed will be adjusted to the predetermined value (Fig. 47).

In the case of motors that are required to run in either direction, the reversal can be obtained either mechanically or electrically. In the former it is effected by connecting the brush rocker, by means of link motion, to a small countershaft on which is mounted a wheel to which the hand rope of the lift car may be attached. The position of minimum starting torque is about ten electrical degrees either side of the neutral position so that the total travel of the rocker is only about 20 deg.

Electrical reversal is the more usual form for passenger lifts and in this design the motor is supplied with two-phase windings, the phases being of unequal turns. The two phases are put in series, thereby producing a single-phase winding, and reversal is effected by reversing one winding relatively to the other by means of a reversing switch. Under these circumstances it is unnecessary to rock the brushes n order to obtain reversal, since the change in the stator winding connections moves the field relatively to the brushes and these, in consequence, have a fixed position when at rest.

At starting the brushes are located in the position for maximum torque, and hence maximum line current to the stator, but the whole effect of the governor is to reduce the torque, and hence the line current as the motor runs up to speed. Any failure of the governor, therefore, will have no tendency to increase the current or to blow the fuses, and the risk of imprisoning passengers in the car, due to a failure of the governor gear, therefore disappears.

Other points in favour of this motor are that it is independent of synchronous speed—70 per cent. to 90 per cent. synchronous speed being usual—good power factor is obtainable, i.e., from 0·8 to 0·9 (twice full load torque can be obtained with 1½ times full load current in special cases, if required); and the speed regulation from full load to no load is approximately 7½ per cent.

A simple method of avoiding all the difficulties which are experienced when alternating current is employed is to install motor generators and convert the alternating supply into direct current, but the plant adds very considerably to the capital cost, provides additional possibilities of failure and increases the maintenance and operation charges.

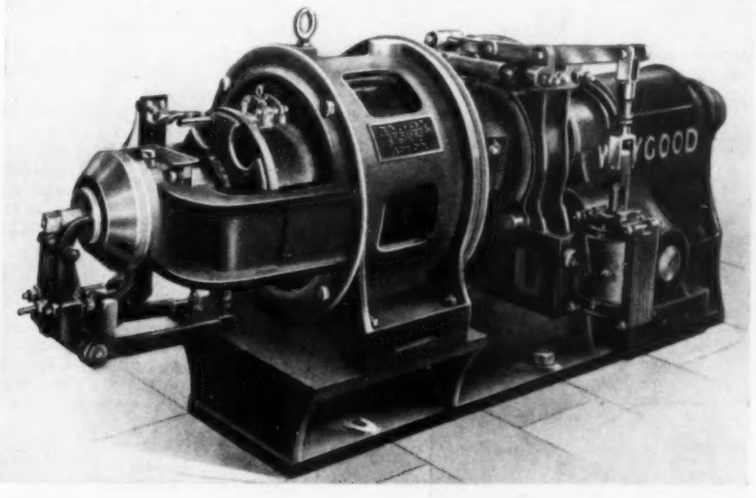


FIG. 47.—"BANDY" SINGLE PHASE REPULSION TYPE MOTOR.

FIG. 48.—MAGNETIC BRAKE (DIRECT CURRENT).

Whether a.c. or d.c. motors are utilised for driving the lift winding engine, the outer end of the motor shaft should always be extended through the bearing for a distance of two or three inches and cut with a square-faced end, so that a crank handle may be fitted and the shaft rotated by hand should this be necessary at any time in the event of a failure of supply, to release passengers who may be in the car.

Magnetic Brake.—On practically all makes of single and tandem worm gear engines, the coupling between the motor and the worm shaft forms the drum on which the magnetic braking effort is applied. Its function is rapidly to absorb the momentum of the moving parts so that accurate landing stops may be made.

The brake shoes, usually two in number and semicircular in shape, are faced with woven asbestos or other special brake linings, and are held up to the drum by means of powerful springs and levers. The levers are coupled to the armature of a powerful electro magnet or to the plunger of a solenoid, the coils of which are so connected that the brake is released immediately current is switched on to the motor. Conversely a failure of power would always stop the lift and apply the brakes automatically (Fig. 48).

Means should always be provided for releasing the brake in the event of failure of the motor or the supply current, so that a key can be applied to the motor shaft and the car be wound by hand to the nearest floor level.

Preferably, the two halves of the brake shoe should be entirely independent of each other, so that either part is a complete brake in itself, and will be effective on the failure of the other half.

It is usual to select a brake which will provide a retarding torque at least equal to the full load torque transmitted by the motor, the approximate value of which can be obtained from the expression:—

$$\frac{T = B.H.P. \times 33000}{2 \pi N} = \frac{B.H.P. \times 5252}{N}$$

When T = Torque in pounds-feet.
N = Revolutions per minute.

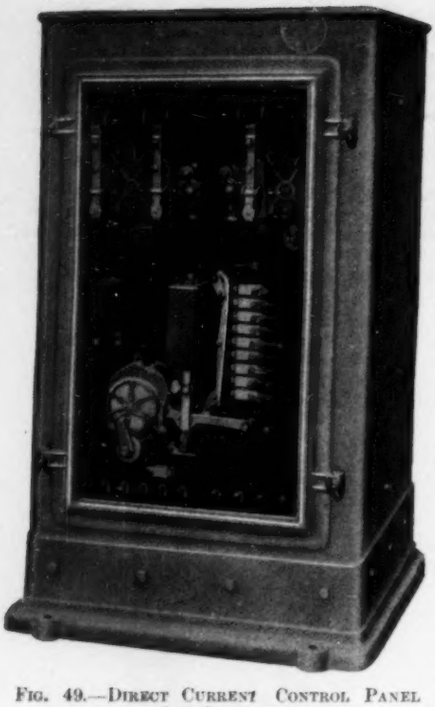


FIG. 49.—DIRECT CURRENT CONTROL PANEL (CAR SWITCH).

On direct current systems, the problem of satisfactory design is a relatively simple one, but on alternating current systems it becomes complicated due to the difficulties encountered in designing a satisfactory magnet. Various types of magnets are being employed, such as single phase long stroke, polyphase long stroke, polyphase short stroke, and constant stroke.

One of the greatest difficulties experienced in producing a satisfactory a.c. brake is noiseless operation. They are liable to slam when closing, and unless the laminated parts are perfectly surfaced and perfectly aligned they will hum after closure. On some types dash pots are used, and certain makers immerse the entire magnet in oil to deaden the noise.

Whatever type of brake is employed, it should be designed for easy and accurate adjustment, so that wear in the shoe linings can be taken up from time to time and satisfactory operation ensured.

Function of Controllers.—Modern lift controllers are called upon tens and possibly hundreds of thousands of times per year to perform the following cycle of operations in either direction of travel and with widely varying loads in the car:—

(*a*) Start the car from rest and accelerate smoothly to full speed.

(*b*) Operate the car satisfactorily at full speed.

(*c*) Retard smoothly from full speed and stop the car accurately at the landing.

(*d*) Hold the car stationary while it is at the landing.

The design of the controller affects the energy consumption to a marked extent and considerable economy can be effected by selecting the most suitable type for each particular application. Needless to say, safety and reliability are the essential features, and the necessity for simplicity and robust construction is obvious. Silent operation of controllers, fixed in conjunction with passenger lift equipment, is highly desirable in the majority of installations and essential in flats, residences, hotels, offices, and similar buildings. Accessibility for inspection and prompt repairs, when so many human lives depend on details, is not only desirable but also absolutely essential.

Parts of Controller Equipment.—The controller equipment consists of:—

(*a*) The main control panel that carries the reversing switch, starting rheostat, &c., &c., which is usually fixed in the motor room.

(*b*) The operating device which may be either a hand rope, car switch, or a box containing a series of push buttons. And also—

(*c*) The magnetic brake (already discussed).

(*d*) The shaft "slow down" and ultimate limit switches.

(*e*) Door and gate controls.

(To be discussed under Safety Devices.)

Main Control Panel.—The car attendant or passenger can only select the direction in which the car is required to travel and afterwards, on a multi-speed lift, select the required operating speed. All other operations are carried out by and on the main control panel, the equipment usually found on such a panel being as follows:—

(*a*) A main reversing switch, which is almost invariably connected in the armature circuit of a d.c. motor or in two of the three-stator mains on a three-phase motor.

(*b*) A main starting resistance or rheostat which automatically accelerates the motor from rest to full speed by gradually short-circuiting the resistance connected in series with the armature or rotor. The method of controlling the period of acceleration varies considerably and is discussed in detail later, but in any case, a rapid return to the off position is essential.

Varying with the make of control and the type of operating device employed, the following additional items may be found.

(*c*) A dynamic brake for slowing down a direct current motor when the car is being brought to rest. It consists of a relay or magnet switch which makes a connection between the armature terminals and a bank of resistances.

(*d*) Protection against overload, which may either take the form of fuses or circuit breakers depending upon the circuit voltage and the full load current.

(*e*) A magnet operated double or triple pole closing or main switch on which the current is made and interrupted.

(*f*) A set of relays and a floor selecting device for push button control.

(*g*) Local control switches so that the operation of the motor, gear, &c., can be tested from the panel.

(*h*) An ammeter for indicating the current taken by the motor, &c.

(*i*) A voltmeter for indicating the supply pressure.

Each type of lift requires its own special form of controller and control panel, and details differ considerably. There is a notable difference in design between English and American control panels, as will be observed from the illustrations of various types. The English makers almost exclusively retain the multi-contact radial arm or vertical pull type of starting rheostat for direct current equipment and utilise the clapper or magnet switch chiefly for the rotor starting rheostat of alternating current motors; whereas American manufacturers almost exclusively use the clapper switch for both direct and alternating current motors (Figs. 49, 50, and 51).

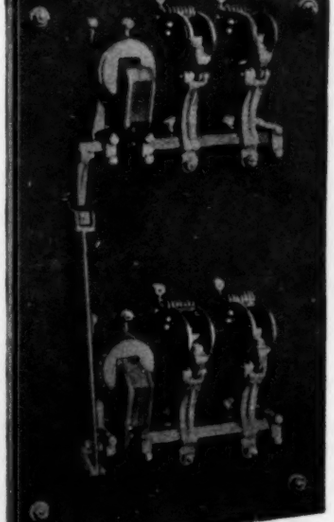


FIG. 50.—THREE PHASE CONTROLLER (CAR SWITCH).

Methods of Controlling the Period of Acceleration of the Motor.—Several methods have been developed for controlling the accelerating switch or switches, and these will be briefly considered from two points of view:—

(*a*) The comfort of the passengers.

(*b*) The effect on the motor.

There is little published information available regarding the standard rates of acceleration and retardation of passenger lift cars, and although

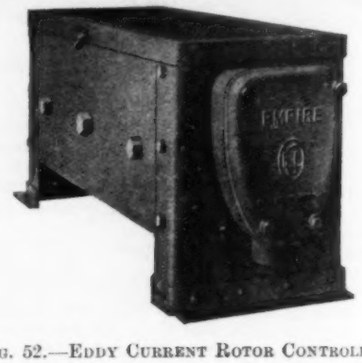


FIG. 52.—EDDY CURRENT ROTOR CONTROLLER

the problem is somewhat different, it may be interesting to note that in electric railway practice a figure of 3 ft. per second is regarded as the maximum for either process, having regard to the comfort of passengers, although when stopping in emergencies this value may often be doubled.

Utilising the well-known expressions employed in connection with problems of acceleration and retardation, we have:

$$(a)\ t = \frac{v-u}{f} = \frac{2s}{u+v}$$

$$(b)\ s = ut + \tfrac{1}{2}ft^2 = \tfrac{1}{2}t(u+v).$$

$$(c)\ f = \frac{v-u}{t}$$

when:

t = time in secs. v = final velocity.
u = initial velocity. s = space traversed.
f = rate of change of motion.

Assuming a lift car speed of 200 feet per minute (3.33 feet/sec.) and an acceleration period of 5 secs., we obtain for:

1. *Space traversed during period of acceleration:*

$$S = \tfrac{1}{2}t(u+v)$$
$$= \tfrac{1}{2} \times 5\ (0 + 3.34) = 8.35 \text{ feet.}$$

(N.B.—This example clearly illustrates the futility of installing high-speed lifts for a purely local service when stops are made at each landing that may be 10 to 15 feet apart).

2. *Rate of acceleration:*

$$f = \frac{v-u}{t} = \frac{3.34-0}{5} = 0.67 \text{ feet per sec.}$$

Apart altogether from the passengers, the motor armature or rotor must be given sufficient time to accelerate, for otherwise the currents flowing through the windings may rise to a dangerous value if the starting rheostat be cut out too rapidly. The time required safely to accelerate the armature or rotor depends upon the size of the motor, a standard ordinary duty rating for industrial motors being five seconds, plus $\frac{1}{4}$ sec. for each B.H.P. of the starter rating, i.e., 5 B.H.P. in $7\frac{1}{2}$ secs, 15 B.H.P. in $12\frac{1}{2}$ secs., 30 B.H.P. in 20 secs., provided current surges do not exceed 150 per cent. full load current. For heavy duty the period of starting up is extended to one minute.

Of the methods chiefly employed for controlling the period of acceleration, the following are the principal:—

(*a*) *Time Element.*

In this method, either air or oil dash-pots are employed that retard the motion of the

rheostat arm or switches for a definite period of time without reference to the current value. Its chief feature is smooth starting under all conditions of loading since sufficient resistance can be provided to start with a light load. With a heavy load sections of the resistance are successively short-circuited until sufficient torque is developed by the motor to accelerate the load. It will be noted that by this method the value of the current which may flow is only limited by the fuses or other protective devices.

(b) Counter or Back E.M.F.

This method depends for operation upon the principle that with a direct current motor the voltage across its terminals increases as the speed rises. Magnet-operated switches connected across the terminals and designed to operate at predetermined pressure values can be arranged to close in succession and to short circuit sections of the resistance. This method provides protection for the motor, but the rate of acceleration is obviously a function of the load. The first contact must be designed so that the resistance in circuit permits sufficient current to flow that will enable the motor to develop the starting torque required for the maximum load.

of the rheostat is attached, and the retarding effect is at minimum value when the main current is also at minimum value. Simple and ample starting time adjustment is provided (Fig. 49).

For alternating current motors having three-phase wound rotors, an eddy current controller is provided, consisting of three solid steel cores having insulated copper windings, from which tappings are taken to the rotor slip rings. On starting the motor, the rotor current is forced through the controller at line frequency, and the maximum rotor volts, and, therefore, produces the maximum eddy current loss. As the motor speeds up, the voltage and frequency of the rotor currents decrease in proportion and, consequently, the eddy current losses decrease automatically. (Fig. 52.)

The speed of acceleration may be also modified, by altering slightly the design of the magnet switches, *i.e.*, giving them greater or less inertia, by increasing or reducing the inductive effect either in the circuit by means of impedance or choking coils, or by a special design of motor, or the time element of the motor may be increased.

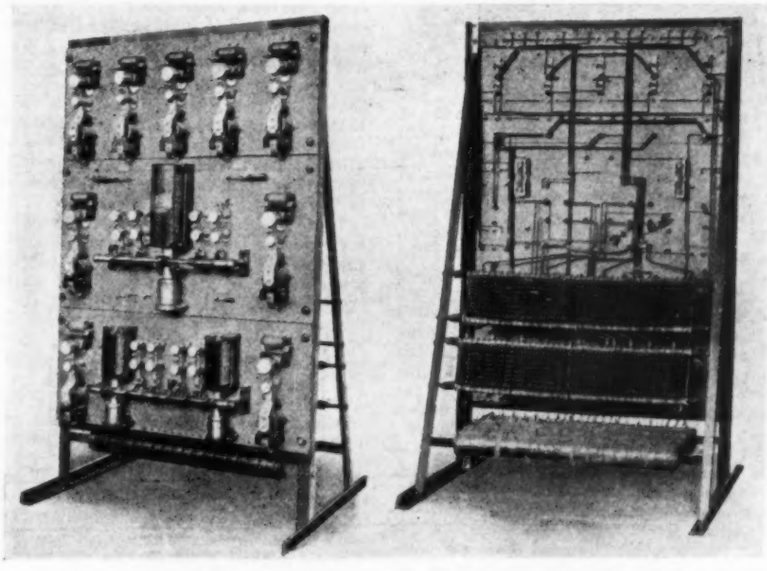


FIG. 51.—DIRECT CURRENT CONTROL PANEL (AMERICAN).

(c) Current Limit.

If the principle of constant torque is employed for acceleration, the rheostat must be given resistance values which allow the stationary motor to draw sufficient inrush current from the line to develop the torque necessary to commence lifting the maximum load. Since the running friction is considerably less than the static friction a large portion of the motor torque rapidly becomes available for accelerating the load and the motor increases in speed until the torque developed is just sufficient to balance the load. At this current value a relay closes the contacts to the next accelerating switch which, in turn, accelerates the motor to a higher balance speed, the process being repeated until all of the starting resistance has been short-circuited. In this case also the rate of acceleration is a function of the car load, as the motor reaches full speed quicker with a light than a heavy load.

The principle of eddy currents is also employed for controlling the period of acceleration upon a current limit basis, both for direct and alternating current motors.

In the former case a copper disc is mounted between the poles of an electro magnet which is excited by the main current. To this disc, by means of suitable gearing, the moving arm

[The author desires to express his appreciation for the assistance rendered by the Westinghouse Electric & Manufacturing Co. for Fig. 43, to Messrs. T. Harding Churton & Co., Ltd., Leeds, for Figs. 44 and 45, to Messrs. Berkeley & Young, Ltd., of London, for Figs. 46 and 47, to Messrs. Kaestner & Hecht, of Chicago, for Figs. 48 and 51, and to Electric Control, Ltd., Glasgow, for Figs. 50 and 52; also to the American Institution of Electrical Engineers and Mr. H. P. Reed, A.M.I.E.E., for valuable information relating to modern elevator practice.]

(To be continued.)

BUILDING ENGINEERING.

As head of the Department of Civil Engineering at Bradford Technical College, Mr. R. E. Stradling is starting special diploma courses in engineering for builders with the hope of providing college training of University status for builders, contractors, and their assistants. The *Yorkshire Observer* of July 6 last, after referring to the new era which has come in the building industry, says:—

"The realisation of these ideals demands the setting of building engineering on a really scientific basis—on a basis similar to that which has made mechanical engineering capable of that refinement which it possesses to-day. Little progress has been made in this direction by any of the modern schools of engineering, and it is in part an attempt to supply this deficiency which has led the Technical College, Bradford, to include in its newly-created Department of Civil Engineering organised special courses of study in building engineering. The name has been selected with a view to conveying as far as may be the purpose and scope of the courses.

"It is believed that the inclusion of the fundamental scientific training in the economy of mathematical design and in the appreciation of the properties of materials will form no mean part of the training of the future members of the architectural profession and of the building and structural industries.

"In the training of the structural engineer, in his capacity both as a designer and as an erector, technical courses similar to those now contemplated may play an important part. But the training of such engineers, just as in the case of mechanical and electrical engineers, cannot be completed by college work only. Practical experience in industry is absolutely essential, and it is in this direction that the college seeks co-operation with those members of the industry in order that the training of the building engineer of the future may be properly completed.

"Another side of the work of the college deserves special mention, for it is an aspect of the very greatest importance to modern structural engineering. This side includes research into the properties of building materials, and for this purpose special facilities and appliances have been made available. The importance of this work cannot be too strongly urged. It is a most fascinating branch of technical work, for it is an attempt to measure the forces of nature and the adaptation of methods to the use of mankind.

"Work of this nature may, of course, only be undertaken by those students who have completed a comprehensive course of technical training. But in this department, as in many other departments of the work of the college, an opportunity presents itself in which the members of the industry may fulfil a most important part and render very effective service. Practical difficulties which arise, failure of materials or structures, and abnormalities of all kinds are of special interest to this department.

"That such work must inevitably be costly will be patent even to the uninitiated. Its importance may, however, be gauged by the fact that it has the unqualified approval and the monetary support of the Building Research Board of the Government Department of Scientific and Industrial Research.

"This Department has made a considerable grant to the newly-appointed head of the civil engineering department of the college (Mr. R. E. Stradling, Ph. D., M.Sc., A.M.I.C.E.) to cover the cost of materials and personnel necessary for the investigation of specific problems. The results of such work will in due course be available, and Bradford industry will have the opportunity of benefiting accordingly.

"The work detailed above will, however, form but one part of the activities of the newly-constituted department. The full-time course in civil engineering which leads to the diploma of the college has been reorganised, and the attainment of those students who complete this course satisfactorily should be not less than those taking similar courses in the universities and university colleges. In fact, the course is arranged so as to cover entirely the needs of those engineering students who propose to present themselves for the honours degree examination of the University of London.

"During the whole career of a student in this department emphasis is laid on the fact that the problems of modern civil engineering can be safely solved only by those whose experience is based on a sound knowledge of mathematical design and the properties of materials of construction."

THE BUILDING TRADE.

THE TRADES UNION CONGRESS.

So far as they have been reported not much incident has marked the proceedings of the 44th Trades Union Congress held at Southport. Although the numbers of members represented showed the considerable reduction on last year of some 1,300,000, this was only to be expected in these times of industrial inactivity with so much unemployment, and the numbers of members represented were still, roughly speaking, double the membership in 1915.

We referred to the Presidential address last week. The Lady Mayor of Southport, in welcoming the Congress, struck the one cheerful note in the proceedings, pointing out the general amelioration that had taken place in the conditions of those engaged in industry and suggesting that what was wrong with the world was that there was too much selfishness and that everyone was trying to get something for nothing—observations which had considerable truth in them and which all classes might very well seriously ponder over.

Of industrial questions raised at the Congress perhaps the most important were the resolutions relating to the question of unemployment. A composite resolution was moved, condemning the Government for failure to take timely and effective action either to prevent or diminish industrial dislocation and trade depression, which contained the following paragraphs:—"The Congress protests against large masses of the unemployed being left absolutely idle when their labour power could be organised and used on productive service to the national benefit. The Congress condemns the inhuman treatment of the unemployed shown in the reduction of benefit under the Unemployed Insurance Act and in persistent refusals to meet reasonable claims for the maintenance of people wholly unable to secure employment. The Congress, therefore, calls upon the Government immediately to devise national schemes of work to enable unemployed workpeople to maintain themselves in reasonable comfort and for those for whom work cannot be found adequate maintenance, by (1) regulating national or local work so as to provide for additional employment during the seasonal or local fluctuations of trade; (2) by organising schemes of useful work and training with full maintenance for all workers who cannot find suitable employment, such schemes of work, training or maintenance to be made a national charge and not placed upon local rates which impose an undue and inequitable burden opon the resources of poor districts." This resolution was passed unanimously and most persons will sympathise with the objects it seeks to attain, but it might almost as well have been framed briefly that the Congress called upon the Government to attain Utopia forthwith. In the course of the debate the evils of unemployment were pointed out with some force—that it injured the character of certain men and deteriorated the skilled workman, and so on—lamentable facts that cannot be denied — but the resolution provides or suggests no real remedy and cannot do so in any practical form, for the only remedy is a revival of trade, all relief schemes being but palliatives. The resolution, as usual, calls for schemes being made "a national charge," a vague term that does not bring it down to the level implied by the words "hard cash," which all such schemes involve. The "wealthy tax-payer" figured in the debate as the person who is to provide "the national charge," but this person, after seven or eight years of strenuous taxation, is almost a creature of the imagination, and "a national charge" now means that the persons in employment must be further taxed to maintain those out of employment, that a struggling trade must be checked by further taxation, with the inevitable consequence that works will be shut down and unemployment increased.

The resolution, in a way, raises that interesting question which has exercised the minds of many persons: should unemployment pay be granted for no work or should national works be started to employ the unemployed? It is attractive to think that money paid to those out of employ should be turned to some account and such a course would undoubtedly be beneficial to the recipients, but we venture to say such a course is not really practical. So long as private enterprise exists at all—and it is the only kind of enterprise, as has been abundantly proved even in the last few years, which makes a country successful—the Government cannot employ persons on schemes productive or unproductive without a dislocation of the whole economic system.

The resolution indirectly raises also another question in connection with the actual receipt of unemployment pay. The scale and standard of living of the working-classes has certainly been raised in this country during and since the war; other classes have been compelled to lower their expenditure and standard of living, but the standard of the working-classes has been raised, and besides greater comfort they demand more leisure and pleasure—both excellent things so long as they can be *earned*. But for the unemployed what is meant in the resolution by "reasonable comfort" and "full maintenance"? If the standard of living of those in employ has been raised still more has the standard of relief been raised for those who are in the unfortunate position of being unable to find employment? The rigorous rules attending "relief" in any form have been relaxed in a manner never before attempted, but it must be remembered so long as this relief is being provided by taxpayers or ratepayers some line must be drawn, for unemployment pay is destructive of the sinews which are required to obtain a revival of trade; increased rating and taxation mean in the long run increased unemployment. The unemployed are deserving of every sympathy and such assistance as the community can afford, but a line must be drawn between the employed and the unemployed; the latter cannot be maintained in the same degree of comfort as the man who is paying his own way, not from any lack of sympathy or because of any demerits on his own part, but quite apart from other considerations for the simple economic reason that his very support is a drain upon the resources of the country, checking any hope of commercial recovery and increasing the evil the nation is suffering from.

The state of Europe must be a warning to all nations that money does not drop from the skies, that the currency is an element which cannot be tampered with at will, and that the inexorable law that capital must be earned before it can be spent on any object whatever still holds good and cannot be overcome by any scheme which human wit can devise. We can only hope that the present condition of depression may pass away. We can relieve to the best of our ability, to a certain extent, those who are especially suffering from its effects, but we cannot pursue our way as though it did not exist and maintain those out of work on the same scale as those paying their way. This policy increases the disease the nation is suffering from, and if recklessly pursued will bring the proportion of unemployed to such a ratio to those employed that all must live by taking in each others' washing. The combined wisdom of the nation must be concentrated upon building up the depleted capital of the nation and on finding productive work, and all other expedients are merely of the nature of soporifics. It is unfortunate that the principle of insurance inaugurated by the Unemployment Insurance Act had not time to be firmly established on the actuarial basis before the time of depression intervened, for the true solution of this problem probably lies in the principle of insurance.

Housing was the subject of another resolution, and if it had only condemned the policy of the Government towards this question of housing everyone would have agreed with it; probably even the Government itself, for it is a sad chapter containing a record of continuous blundering. The resolution called upon the Government to make it compulsory on local authorities to carry out adequate housing schemes and to make grants free of interest to enable local authorities to erect suitable houses at a reasonable cost. The resolution was carried, and another straw would be added to the loads of the overburdened tax and ratepayers if it were to be put into practice. It is curious that the Trade Union delegates are the first to claim complete emancipation and independence for the trade unions, but when money has to be found they almost involuntarily turn forthwith to the tax and ratepayers. Housing requires a complete rest from legislative interference and the real cure for the housing question lies in giving private enterprise a clear field and no favour.

A resolution was also passed instructing the General Council to use every endeavour to get the Rent Restriction Act extended after June 24, 1923, and calling upon the Government to make full inquiry into the bearing of rent on the standard of living. We have frequently expressed our views on the evil influence the present Rent Restriction Act is having on the housing question as a whole, but at the same time we have always admitted that if sweating can be proved in the case of working men's dwellings some limited form of restriction might possibly be continued so long as the extreme shortage of houses continues.

It is not necessary to refer at length to the very important debate on the resolution to give the new General Council powers to take the initiative where disputes in which unions are concerned remain unsettled, and call the unions concerned into consultation, as it was rejected by Congress. The resolution was, no doubt, intended to co-ordinate labour and facilitate the general strike in cases where large bodies of men were concerned, for although the term of the resolution spoke of the Council using its influence to bring about a just settlement, many of the speakers left the real intention of the resolution in no doubt. We are glad it was not carried, for it had a militant savour, and at this time, above all tohers methods of conciliation rather than of intimidation are necessary for the welfare, if not for the very existence, of all classes.

We are unable to mention all the resolutions considered; most of them dealt with industrial questions, and although we are unable to agree with many of the views expressed and have ventured on some criticism, we must pay a compliment to those connected with the Congress—first, in the fact that the resolutions moved related mainly to industrial questions and not, as on former occasions, merely to general catchword socialistic propaganda doctrines, and secondly on the manner in which the debate was carried on and the proceedings conducted. This Congress has reached a higher level than many, if not most, of its predecessors, and it was evident that the serious crisis we are passing through had had its influence.

Price of Cement in Germany.

The Commercial Secretary at Cologne has forwarded to the Department of Overseas Trade a number of extracts from the German press dealing with price increases. With regard to cement, in consideration of the coal price increase, the maximum prices will undergo an extraordinary increase, amounting for each of the three associations to 27,000 Mks. per 10 tons. The prices are as follows:—Rhineland and Westphalia, 52, 549 Mks; North Germany, 53,559 Mks.; South Germany, 54,128 Mks. The prices are valid from September 1 to September 14.—*Kolnische Zeitung*, September 1, 1922.

EDUCATIONAL COURSES:

COLLEGE OF TECHNOLOGY, MANCHESTER.

WE have received from the Principal of the College of Technology, Manchester, the prospectus for 1922-23 of the University Courses. The College offers systematic training in the principles of science and art as applied to mechanical engineering, electrical engineering, and municipal and sanitary engineering; architecture and the building trades; and the chemical and textile industries, &c. It possesses extensive laboratories and workshops equipped with full-size modern machinery, tools and apparatus, including not only machines of the types now in general use, but also machines especially constructed for demonstration, experiment, and original research.

The session, which will open on Thursday, October 5, 1922, and will end on Friday, July 27, 1923, is divided into the following terms: Michaelmas term, October 5, 1922, to December 19, 1922; Lent term, January 11, 1923, to March 28, 1923; Summer term, April 24, 1923, to July 7, 1923; and Long Vacation term, July 9, 1923, to July 27, 1923.

THE POLYTECHNIC, REGENT ST.

The prospectus of the School of Architecture, Building and Surveying (Evening Department) of the Polytechnic, London, has just been issued. The session for 1922-23 commences on September 25, and the syllabus includes the following courses: Architecture, art, design and composition, practical geometry, building construction, land surveying and levelling, builders' quantities and professional practice, building law, valuation, specifications and reports, development of building estates, building science, &c.

The lecturers and instructors are: Messrs. George A. Mitchell, A.R.I.B.A., M.C.I. (Head of Department); A. E. Holbrow, A.R.I.B.A., M.S.A., M.C.I.; H. A. Douglass, A.R.I.B.A.; W. A. Ross, A.R.I.B.A.; W. Harvey, R.A. Schools, Gold Medallist; D. W. Ayre, A.R.I.B.A.; F. G. Pearson, P.A.S.I.; J. A. Ray, Nat. gold medallist, art; J. Preston Davies, Nat. silver medallist, art; T. Hobart Pritchard, Mathematics; W. Cox, Hons. medallist C. & G., carpentry; W. Scott, M.R.S.I.; J. Dunkin, furniture design; H. C. Sands, F.S.I.; R. H. Pentleton, P.A.S.I.; A. M. Mitchell, B.Sc. Eng. Hons., A.C.G.I.; L. H. Flanders, A.M.I.M.E.; J. R. Southerst, B.Sc., mathematics; P. Jennings, B.Sc., mathematics; S. R. Hollingdale, construction; V. Helbing, construction; T. R. Cox, carpentry; L. B. Webb, hons. medallist, cabinet making; J. W. Barrett, carpentry; R. J. Audrey, gold medallist, Inst. Plumb.; H. Perkins, R.P., plumbing; and J. T. Garside, furniture design.

NORTHERN POLYTECHNIC.

The prospectus for the Northern Polytechnic is to hand. The Head of the Department of Architecture, Surveying and Building is Mr. T. P. Bennett, F.R.I.B.A., and the lecturers include the following:—

Chief lecturer and assistant to head: Mr. H J. Axten, A.R.I.B.A.; art masters: Messrs. J. C. Stephenson, R.C.A. Slade, &c. (Silver and Bronze Medallist), and C. F. Filbey, B. Chrom; architectural design: Messrs. T. P. Bennett, F.R.I.B.A., and R. A. Duncan, F.R.I.B.A.; history of architecture: Messrs. H. Parker (Hons. City and Guilds), and T. E. Scott, A.R.I.B.A.; perspective and rendered drawings: Mr. J. C. Stephenson, R.C.A. Slade; construction of buildings and geometry: Messrs. H. J. Axten, A.R.I.B.A., H. Parker (Hons. City and Guilds), and T. E. Scott, A.R.I.B.A.; working drawings and full-size details: Mr. H. J. Axten, A.R.I.B.A.; structural engineering: Mr. G. A. Gardner, M.C.I., M. Maths. Assoc.; graphic statics: Mr. G. A. Gardner; municipal engineering visits to works: Mr. R. G. Keevil, A.M.I.M.E., M.C.I.

Special lectures will be given during the session on architecture and construction by Mr. T. P. Bennett, F.R.I.B.A., and lectures on building problems and materials will be given as follows:—

October 5.—The Development of Building Estates.—Sir Wm. Wells, F.S.I., Past-President. Auctioneers and Estate Agents' Institute.

October 26.—The Manufacture of Portland Cement.—Mr. T. J. Clark, Concrete Utilities Bureau.

November 16.—The Organisation of Building Works.—Mr. F. J. Gayer, Senior Vice-President Institute of Builders.

December 7.—Composition and Jointless Flooring.—Mr. R. R. Butler, D.Sc., A.C.I., F.C.S.

January 11.—The Purchase and Selection of Timber.—Mr. Montague L. Meyer.

February 1.—The Manufacture of Bricks.—Mr. Arthur H. Brown, B.Sc.

February 22.—Decorative Plasterwork.—Mr. E. F. Jackson, of Messrs. G. Jackson & Sons, Ltd., Rathbone-place.

March 15.—Painters' and Decorators' Materials.

Admission is free to members of the public on presentation of visiting cards.

TECHNICAL COLLEGE, BRADFORD.

On page 387 we refer to the diploma course in building and engineering which has just been inaugurated in connection with this College.

TRADES TRAINING SCHOOLS.

The annual report and prospectus of the Trades Training Schools of the Worshipful Company of Carpenters, 153, Great Titchfield-street, W.1, has just been issued. The Director of the Schools is Sir Banister Fletcher, F.R.I.B.A., F.S.I., and the syllabus includes classes for carpenters, joiners, masons, glaziers, painters, plasterers, plumbers, metal workers, stone carvers, life class, bricklayers, wheelwrights, wood carvers and electricians. The instructors are Messrs. H. Playsted, C. E. Dunkin, H. G. Bush, J. D. Forsyth, H. J. Fowler, F.I.B.D., W. H. Pearson, T. Gooding, R. N. Coldwell, H. Collins, A. J. Oakley, R.B.S., C. L. Hartwell, A.R.A., R.B.S., F. W. Billinghurst, W. E. Cox, F. A. Markham, and S. Nicholls.

A Large Floating Dock.

There is, it is stated, great competition among the principal British shipbuilding firms for the contract for the construction of the large floating dock which the London and South-Western Railway Company propose to install at Southampton for the accommodation of large liners. The contract is expected to be placed towards the end of next week. The dock is to be 960 feet long and 170 feet broad, and it is to be built in six or more sections. The total amount of steel required for it is slightly over 16,000 tons.

New Building in Manchester.

We understand that a new block of buildings is being erected in Oxford-street, Manchester, at the corner of Charles-street. The new structure, which is being built for Messrs. Cohen, drapers, of Manchester, will be known when completed as Cohen's Buildings The architect is Mr. Charles Swain, of Manchester, and the general contractors are Messrs. Lambourne & Co., Ltd., of Manchester and London. The ground floor will be almost wholly occupied by a café and restaurant, and the six floors above divided up into suites of offices. A smoke-room and café will be situated in the basement. The facings to the Oxford-street and Charles-street façades will be in Portland stone. The roof is of the mansard type, steel framed, and covered externally with Welsh slates. The window openings are all of a spacious character and provided with steel sashes. The building will have accommodation for some 84 offices. A portion of the scheme which is now in progress, and which will mean filling up all the space between Charles-street and the viaduct, will provide accommodation for about 150 more.

THE UTRECHT FAIR.

THE first Holland's Industries Fair was instituted, as a war-time measure, at Utrecht in 1917. Its object was to permit of a stock being taken of the internal resources of the country and to facilitate the co-ordination of supply and demand and the adjustment of the nation's industries to the altered conditions consequent upon the closing of her frontiers.

The success of the first and the two succeeding Fairs, held in 1918 and 1919, was so great that it was decided to depart from the exclusively national character of the exhibitions and to erect permanent buildings which could suitably house a fair of international dimensions.

These buildings were completed in time for the Fifth Annual Fair held in September, 1921, since when the Fairs have been held at intervals of six months only. There were in the fair which has just closed only 17 exhibits by British firms, and of these only five were of materials used in connection with the erection or equipment of buildings. Some little consolation might be found for this lack of our national representation in the obvious enthusiasm displayed both by the Dutch firms handling British products and those to whom these wares were demonstrated. The Holland's Industries Fairs are not a private undertaking, but were inaugurated by means of a guarantee fund subscribed for privately and assisted by a subsidy from the Netherlands Government.

At the stand of Messrs. Kerner-Greenwood & Co., Ltd., King's Lynn, "Pudlo" brand cement waterproofer was demonstrated by models similar to those on view at the Building Trades Exhibition at Olympia. The whole of these models were constructed and erected by a Dutch contractor in Utrecht who had no other experience of "Pudlo" brand powder than that gained by his use of the waterproofer in the ordinary course of his business. There was also exhibited the hydraulic testing machine which this firm had on view at Olympia; and on the last day of the fair a cement cylinder waterproofed with "Pudlo" brand powder, which had been continuously subjected to a water pressure of 300 lb. per square inch for nine days, was broken in the presence of two Dutch architects visiting the stand and was found to bear no traces of the penetration of moisture.

The North British Rubber Co., Ltd., Castle Mills, Edinburgh, exhibited samples of "Parafloor," a thin, flexible rubber carpeting used in place of linoleum and possessing the advantages of rubber flooring at a tithe of the cost of the forms in which this material has previously been available for that purpose. The stand holders are a Dutch firm, Messrs. Aug. Lachappelle, of Breda, who also exhibited examples of parquet flooring made at their factory in Breda, Holland.

The Director of the Rawlplug Co., Delft and London, expressed satisfaction at the business done at the Fair and the progress made in the marketing of the firm's products in Holland. The Rawlplug methods have been adopted by the Netherlands State Railways and Telephone Departments, and it is stated that in the Fair buildings themselves the whole of the electric light and power conduits have been fixed to their patent fibre plugs.

The exhibits of the Ripolin Co., Amsterdam and London, maintained the reputation of the firm in connection with the enamel paints marketed under this trade brand.

An inspection of the stand of the S.K.F. Ball Bearings Co., Amsterdam and Luton, gives an idea of the immense amount of energy and efficiency wasted as a result of friction in machinery bearings. The use of this firm's ball bearings has recently been extended to railway carriages and locomotive engines, and the Swedish State Railways have now in commission rolling stock so equipped.

The services of the management of the Hollands Industries Fairs do not cease with the close of the exhibition; a department exists which operates the whole year round and deals with enquiries received, thus assisting participators to realise to the full the benefit of their enterprise.

NEW BUILDINGS IN LONDON.

SOUTH EAST.—New offices are now being constructed for Messrs. Nobles & Hoare, Ltd., varnish manufacturers, on a site adjoining their existing premises at the New Cut end of Cornwall-road. The new building, consisting of three floors, will have a frontage of 59 ft. with an average depth of about 59 ft. The construction will be steel and brickwork, with a flat asphalte roof. The frontage will be composed of purple stocks with red brick and artificial stone dressings. The architects are Messrs Campbell Jones, Son, & Smithers, of 9, Dowgate-hill, E.C.4. The general contract has been secured by Messrs. Ashby & Horner, Ltd., of 8, Aldgate, E.1. The steelwork has been supplied by Messrs Redpath, Brown & Co., Ltd., of 3, Laurence Pountney-hill, E.C.4, and the asphalting will be done by Messrs. F. Bradford & Co., of 23, Coopersale-road, E.9. One high-speed electric passenger lift will be installed by Messrs. Waygood-Otis, Ltd., of Falmouth-road, S.E.1. The fireproof blocks for the floors will be supplied by Messrs. Siegwart Fireproof Floor Co., Ltd., of 231, Strand, W.C.2. The contract is being carried out under the direction of Mr. A. G. McDowall, general foreman.

EAST CENTRAL.—The entire premises occupied by Messrs. The Standard Bank of South Africa, Ltd., in King William-street, are to be rebuilt. A commencement has just been made with the first section, occupying No. 77. On this site, having a frontage of about 25 ft., a new seven-floor building is to be erected comprising bank accommodation and offices. There will be a steel frame and brickwork with a Portland stone front. The architects for this scheme are Messrs. Meakin, Archer & Stoneham, of 32, Nicholas-lane, E.C.4. The general contract is being carried out by Messrs. Ashby & Horner, Ltd., of Aldgate, E.1. The steelwork is by the Lindsay's Paddington Ironworks, Ltd., of 15, North Wharf, W.2. The floors will be composed of hollow blocks supplied by Messrs. Diespeker & Co., Ltd., of 60, Holborn Viaduct, E.C.1. Other sub-contracts have not yet been settled.

EALING.—A new "Ideal" Automatic Petrol Filling station is now in course of erection on a site in Uxbridge-road, facing Ealing Common, close to the Underground Station. The frontage of about 71 ft. will be composed of two wings, each having one floor, and there will be a central drive entrance. The depot will have an average depth of about 92 ft., and will be composed of steel and brickwork, with a reinforced concrete roof and floors—the latter to be finished with "Thermos." The frontage is to be finished with clean pebble dash on cement backing, with clean cement ribbons, plinths, piers, &c., and red brick facings to the bull's eye placed centrally on the frontage of each wing. Accommodation will include offices, workshops, and garage, with independent lock-up accommodation for 14 cars. Bricks of a special fluted pattern will be used to aid the adhesion of sand and cement. A special feature of the design will be the provision of three petrol storage tanks, each having a capacity of 2,000 gallons. These will be submerged 2 ft 6 in. below finish of floor line, and will be constructed of reinforced concrete with acetylene welded proof tanks composed of ½ in. ship plate. It is understood that an additional storage tank may be constructed later, but nothing definite is yet decided. The general contractors are Messrs. G. B. Farrar & Co., of 193, Whitechapel-road, E.1. The plans for this scheme have been prepared by Messrs. J. Parr Emett & Partners, reinforced concrete specialists, of 5, Victoria-street, S.W.1, who have also specially designed and supplied the steelwork for this contract. These pumps and all other petrol accessories will be supplied by the manufacturers, Messrs. S. F. Bowser & Co., Inc., of 32, Victoria-street, S.W.1. The general contract is under the direction of the general foreman, Mr G. Richards, late Instructor of Building at the Government Instructional Factory, Cricklewood, N.W.

RATES OF WAGES IN THE BUILDING TRADE.

The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Bath	1/5	1/5	1/5	1/5	1/5	1/5	1/5			1/3
Bedford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Birkenhead	1/10	1/10	1/10	1/10	1/10	1/10	1/10			1/0½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/9	1/8			1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/3
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/0½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½			1/3
Brighton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			0/11½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/0½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Burton-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/3
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/2
Cambridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/3
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/0½
Chatham	1/4	1/4	1/4	1/4	1/4	1/4	1/4			1/3
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0
Cheltenham	1/5	1/5	1/5	1/5	1/5	1/5	1/5			1/0½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/0½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Colchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/3
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/0½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/3
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/2
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Dudley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/3
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/2
E. Glam. (Mon. Vall.)	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Exeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Folkestone	1/4	1/4	1/4	1/4	1/4	1/4	1/4			1/0
Gloucester	1/5	1/5	1/5	1/5	1/5	1/5	1/5			1/0½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
Grays	1/8	1/8	1/8	1/8	1/8	1/8½	1/7			1/3
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Great Yarmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4			1/0
Guildford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Hastings	1/4	1/4	1/4	1/4	1/4	1/4	1/4			1/0
Hereford	1/5	1/5	1/5	1/5	1/5	1/5	1/4			1/0½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Ipswich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Liverpool	1/10	1/10	1/10	1/10	1/10	1/10	1/10			1/5½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
London	1/8	1/8	1/8	1/8	1/8	1/8	1/7			1/3
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Luton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Maidstone	1/4	1/4	1/4	1/4	1/4	1/4	1/4			1/0
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
Norwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5			1/0½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Oxford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/5			1/1½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Reading	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4			1/0
Rugby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
St. Albans	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
St. Helen's	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Scarborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
Southampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Southend-on-Sea	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/9	1/9			1/3
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/4			1/0½
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Torquay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Walsall	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½			1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8			1/3
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2
York	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½			1/2

(For rates of wages in the Building Trade in Scotland see page 392.)

NEW INVENTION.

The "Cozy" Stove.

THROUGH the courtesy of Lieut.-Colonel R. H. F. Standen, who is interested in the question of smokeless fuel, we were recently able to view a new type of stove which combines the advantages of the open fire-place and the slow combustion stove. The "Cozy" stove, as it is called, is the invention of Mr. Svend G. Fiedler, a Dane. The new stove differs from the ordinary type of anthracite stove in that it burns any kind of fuel (*i.e.*, coal, coke, wood, peat, &c.), and the combustion is particularly thorough. Owing to the special internal construction, it can be burned with the doors open, giving precisely the same effect as the open fire-place. On the other hand, when the doors are closed and the draught valve properly regulated the fire will burn very slowly and can easily be kept in all night. As the lower part of the stove, which contains the ash tray, is quite closed, the annoyance of dust and soot from the fire-place is entirely eliminated. Installed in the nursery, juvenile schools, &c., the danger attached to open grates is entirely removed.

An additional original and important feature in the construction of the "Cozy" stove is the air circulation channels on both sides of the heat chamber, connected with the room through slots at the floor and the tops of these channels. The air in the circulation channels is heated by contact with the side of the stove, ascends through the upper slots, and the cold air from the floor is drawn through the lower slots, and is heated in turn. The circulation effected in this way secures the heating of the air down to the surface of the floor.

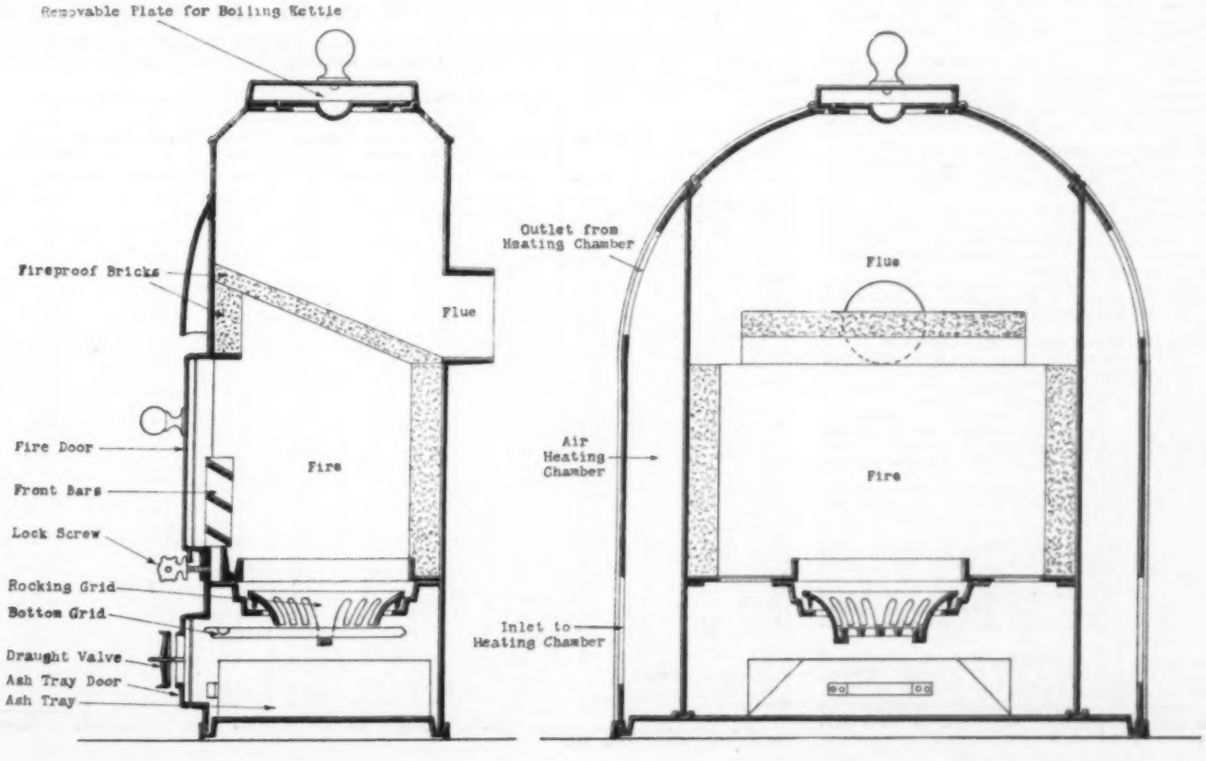
It is claimed that, based on present-day coal prices, a room of 3,000 cubic feet (20 ft. × 18 ft. × 8 ft.) can easily be heated at a cost of only sixpence per twenty-four hours. The best fuel adapted for the stove has proved to be a mixture of two-thirds small coke and one-third small coal, but coal-dust can be burned with satisfactory results. With three pounds of fuel and proper regulation of the draught valve, the stove will burn for nine hours without requiring any attention.

Liverpool Housing.

The Health Department for the City of Liverpool has just issued its report for 1921, with observations up to June 30, 1922, by the Medical Officer of Health, Dr. E. W. Hope, O.B.E., D.Sc. The report states that in the year under review there were 1,795 houses erected, as against 767 in the year before the war. Of those built in 1913, 537 rented at from £18 to £25, while in 1921 only one came in that category, and 1,794 rented at £35 and upwards. The largest number of houses put up in the years 1905–1921 was in 1906, viz., 2,453, when 1,039 were of an annual rental of £18 to £25, but in the year 1909, when 304 less were constructed, 1,369 of them rented at these low figures. Of the 1,795 dwellings erected last year, 1,758 were built under the direction of the Housing Department, these forming parts of Government-assisted schemes.

Estate.

Alderman Arthur Burrell, of Arundel, of Messrs. Burrell & Standen, plumbers and sanitary engineers, of Arundel and Littlehampton, left estate value £4,592.



CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

SEPTEMBER 16.—**Bristol.**—PAINTING.—Painting new wards, bathrooms, &c., at Southmead Infirmary, for the Bristol B.G. Mr. James A. Coles, Clerk, St. Peter's Hospital, Bristol.

SEPTEMBER 16.—**Clacton-on-Sea.**—DRILL HALL.—For alterations and additions to headquarters, 5th Battalion Essex Regiment, "Green Lodge," Old-road, Clacton-on-Sea, for the Essex Territorial Army Association. The Secretary, Essex Territorial Army Association, Market-road, Chelmsford. Deposit £2 2s.

SEPTEMBER 16.—**Cosford.**—REPAIRS.—Repairs to the roof of the institution at Semer, for the B.G. Mr. Alfred Newman, Clerk, 6, Churchgate-street, Hadleigh.

SEPTEMBER 16.—**Llanrwst.**—COTTAGES, &c.—Erection of two cottages, set of farm buildings and adaptation of existing buildings at Ty'nycoed, Maenan, for the Carnarvon C.C. Mr. D. G. Jones, Clerk to the Smallholdings Committee, County Offices, Carnarvon.

SEPTEMBER 16.—**Rotherham.**—HOUSES.—Erection of a further 52 houses on Section "D" of the Doncaster-road housing site, for the T.C. Mr. Chas. A. Broadhead, Housing Architect, St. George's Hall, Rotherham. Deposit £2 2s.

SEPTEMBER 16.—**Silloth.**—BUNGALOW.—Erection of a bungalow at Silloth, for Mr. T. J. Osborn. Mr. George Armstrong, architect, 24, Bank-street, Carlisle.

SEPTEMBER 16.—**Usk (Mon.).**—ERECTION OF RESIDENCE.—For erection of principal's residence on the Monmouthshire Agricultural Institution Farm at Usk. Mr. John Bain, F.R.I.B.A., County Hall, Newport. Deposit £2 2s.

SEPTEMBER 18.—**Barnsley.**—HOUSE.—For the erection of a house, Patrick's Gardens, Cockerham-lane, Barnsley. Mr. C. F. Moxon, architect, Regent-street South, Barnsley.

SEPTEMBER 18.—**Barrow-in-Furness.**—SUB-STATION.—Erection of electricity sub-station at Rampside, for the T.C. Borough Engineer, Town Hall, Barrow.

SEPTEMBER 18.—**Cardiff.**—FENCING.—Erection of approximately 2,800 yards lin. of concrete post and cleft-chestnut fencing at Mynachdy, for the T.C. Mr. E. J. Elford, M.I.C.E., City Architect, City Hall, Cardiff. Deposit £2 2s.

SEPTEMBER 18.—**Clitheroe.**—PAINTING, &c.—For painting and fixing new gutters at Goosebutts Farm, for the T.C. Mr. A. R. Bleazard, Borough Engineer, Clitheroe.

SEPTEMBER 18.—**Conisborough.**—ALTERATIONS, &c.—For (*a*) alterations to Council Offices; (*b*) heating of offices; and (*c*) wiring for electric light; (*d*) erection of public convenience. Mr. H. Shirlwell, surveyor, Council Offices, Conisborough.

SEPTEMBER 18.—**Forfar.**—ALTERATIONS.—For alterations and additions at Forfar Post Office. Architect, H.M. Office of Works, 4–5, Drumsheugh Gardens, Edinburgh. Deposit £1 1s.

SEPTEMBER 18.—**Grimsby.**—HOUSES.—For building 24 houses in blocks of four of non-parlour and/or parlour types, for the T.C. Mr. John W. Jackson, Town Clerk, Municipal Buildings, 170, Victoria-street, Grimsby. Deposit £2 2s.

SEPTEMBER 18.—**Guildford.**—REPAIRS, &c.—For repairs and redecorations to certain buildings at Whitmoor Smallpox Hospital, near Guildford, for the Guildford, Godalming and Woking Hospital Board. Mr. J. H. Norris, Lic. R.I.B.A., 51, High-street, Guildford.

SEPTEMBER 18.—**Hinckley.**—PAINTING.—For painting at the Workhouse, Hinckley, for the Board of Guardians. Mr. Thomas Flavell, Clerk, 2, Church-street, Hinckley.

SEPTEMBER 18.—**Horsham.**—REPAIRS, ETC.—For repairs to roof, decorative works and minor repairs to the exterior of the Children's Homes, for the Board of Guardians. Mr. F. Fraser Haddock, clerk, Union Offices, 9, Carfax, Horsham.

SEPTEMBER 18.—**Jersey.**—HOUSES.—Erection of 35 houses at Greve-d. Azette, Jersey. S. Newcombe, architect, 52, Ravenscourt Gardens, W. 6. Deposit £2 2s.

SEPTEMBER 18.—**Kent.**—HOUSES.—Erection of 12 class "A" houses at the Griggs Cross Site, Orpington, for the Bromley U.D.C. Mr. F. Danby Smith, F.R.I.B.A., Parliament Mansions, Victoria-street, Westminster, S.W. 1. Deposit 2 guineas.

SEPTEMBER 18.—**Kent.**—SCHOOL.—Erection of a Council school for Bexley (Welling) in the County of Kent, for the Kent Education Committee. County Education Architect, Room 69, Sessions House, Maidstone. Deposit £2.

SEPTEMBER 18.—**Leeds.**—PAINTING.—For painting the interiors of certain rooms in Block 8, at the Institution of the B.G. Mr. James H. Ford, clerk, Poor Law Offices, South Parade, Leeds.

SEPTEMBER 18.—**Otterburn.**—MEMORIAL HALL.—The erection of a hall at Otterburn. Mr. C. Franklin Murphy, architect, Lloyds Bank Chambers, Morpeth.

SEPTEMBER 18.—**Plymouth.**—REPAIRS.—Repairs to No. 11, Deptford-place, for the T.C. Medical Officer of Health's (Housing) Department, Municipal Buildings, Plymouth.

SEPTEMBER 18.—**Pontypridd.**—HOUSES.—Erection of 20 houses, for the U.D.C. Mr. W. E. Lewis, Surveyor, Municipal Buildings, Pontypridd. Deposit £3 3s.

SEPTEMBER 18.—**Royton.**—HOUSES.—Erection of an additional 24 houses at Ooze Wood, for the U.D.C. Surveyor, Town Hall, Royton.

SEPTEMBER 18.—**Thurles.**—HOUSES.—Construction of six houses on New-road site, for the U.D.C. Mr. T. F. McNamara, M.R.I.A.I., 192, Great Brunswick-street, Dublin. Deposit £2 2s.

SEPTEMBER 18.—**Warrington.**—GRANITE POSTS.—For turned granite posts and chains for the Soldiers' Corner in the cemetery, for the T.C. Mr. Andrew M. Ker, Borough Engineer, Warrington.

SEPTEMBER 19.—**Bolton-upon-Dearne.**—HOUSES.—Erection of 78 dwelling-houses of various types, and construction of roads and sewers, for the U.D.C. Messrs. Garside & Pennington, Architects, Ropergate, Pontefract.

SEPTEMBER 19.—**Chingford.**—CONVERSION AND ERECTION.—(1) The conversion of an existing building, formerly used as a brick kiln, into a cottage bungalow; (2) the erection of a suitable covering over the refuse incinerators; (3) the erection of new storage sheds, for the Chingford U.D.C. Deposit, £2 2s.

SEPTEMBER 19.—**Durham.**—ALTERATIONS, ETC.—For builder's work in connection with High Houghall Farm: (1) Alterations to cottages; (2) conversion of farm buildings into poultry station, for the County of Durham Education Department. Mr. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

SEPTEMBER 19.—**Durham.**—PLASTERING.—Execution of plastering work at the Witton Gilbert and Sacriston Housing Schemes, Co. Durham, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

SEPTEMBER 19.—**Easington.**—VARIOUS WORKS.—For Sundry Works, which include a heating installation, in connection with the conversion of Easington Rectory into a Children's Home, for the Board of Guardians. Mr. F. W. Girven, surveyor, Council Offices, Easington. Deposit £2 2s.

SEPTEMBER 19.—**Glasgow.**—HOUSES.—Erection of 68 houses in Cathcart-road, for the T.C. Mr. J. Lindsay, Town Clerk, Glasgow.

SEPTEMBER 19.—**Heywood.**—HOUSES.—Erection of twenty houses (in pairs) at Barley Hall, for the U.D.C. Mr. J. B. Nuttall, Borough Surveyor, Heywood. Deposit £2 2s.

SEPTEMBER 19.—**Hull.**—HOUSES.—Erection of 50 houses on the Cottingham-road Estate, for the T.C. City Architect, Hull.

SEPTEMBER 19.—**King's Worthy.**—RESTORATION.—Restoration to the roofs of church. Mr. B. D. Cancellor, F.S.Arc., Queen Anne Chambers, Winchester.

SEPTEMBER 19.—**Windsor.**—WORKS AND REPAIRS.—Execution of ordinary works and repairs in the Windsor district, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £3 3s.

SEPTEMBER 20.—**Barnsley.**—PAINTING, &c.—Painting, &c., at Mount Vernon Sanatorium, Barnsley, for the Barnsley and Wakefield Joint Sanatorium Committee. Borough Engineer, Fairfield House Offices, Barnsley.

SEPTEMBER 20.—**Bristol.**—FOUNDATIONS.—Construction of foundations for No. 15 Turbo Alternator at the Feeder-road Generating Station, for the T.C. Mr. H. Faraday Proctor, Chief Engineer, The Exchange, Corn-street, Bristol. Deposit £2 2s.

SEPTEMBER 20.—**Chepstow.**—POST OFFICE.—Erection of Post Office at Chepstow, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

SEPTEMBER 20.—**Edmonton, N.18.**—DECORATIONS, &c.—Internal painting and decoration, &c., of the Annexe, North Middlesex Hospital, Silver-street, Edmonton, for the Guardians of the Union. Mr. J. C. S. Mummery, Guardians' Architect, 34, Bloomsbury-square, W.C.1.

SEPTEMBER 20.—**Golcar.**—HOUSE.—Erection of a dwelling house in Scar-lane, Golcar. Messrs. Lunn & Kaye, architects, Milnsbridge, Huddersfield.

SEPTEMBER 20.—**Hemsworth.**—CLASSROOMS.—For the erection of three additional classrooms at Hemsworth, Kinsley Council School, for the West Riding Education Committee. Education Department, County Hall, Wakefield.

SEPTEMBER 20.—**Leeds.**—COTTAGES.—Erection of a pair of cottages at Adel Training School, Adel, near Leeds, for the T.C. Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

SEPTEMBER 20.—**Leeds.**—PAINTING.—Cleaning and painting of steel bridge over river Aire at Rodley Sewage Works, for the T.C. Mr. George A. Hart, M.Inst.C.E., Sewerage Engineer, 8, Park-square, Leeds.

SEPTEMBER 20.—**Liverpool.**—PAINTING.—Painting at Walton and Smithdown-road Institutions for the West-Derby B.G. Mr. G. W. Coster, Clerk, Brougham-terrace, Liverpool.

SEPTEMBER 20.—**London, S.E.**—EMPLOYMENT EXCHANGE.—Erection of an Employment Exchange in the Borough, London, S.E., for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

SEPTEMBER 20.—**Maidenhead.**—EXTENSION.—Extension of Post Office, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W. Deposit £1 1s.

SEPTEMBER 20.—**Ogmore Vale.**—GARAGE.—For erecting a garage for the Committee of the Ogmore Valley Ambulance Society. Mr. John Davies, 7, John-street, Ogmore Vale.

SEPTEMBER 20.—**Sheffield.**—HOUSES.—Erection of 58 houses on the Stubbin Estate, and 19 on the Brushes Estate. Mr. F. E. P. Edwards, City Architect, Town Hall, Sheffield. Deposit £2.

SEPTEMBER 20.—**Woolley, near Wakefield.**—RESIDENCE.—For the erection of a detached residence at Woolley, near Wakefield. Messrs. Massie & Holdsworth, architects, Wood-street, Wakefield.

SEPTEMBER 20.—**Worcester.**—HOUSES.—Erection of 42 houses on the Bromyard-road housing site, for the T.C. Mr. William Ransom, City Surveyor, Guildhall, Worcester. Deposit £3 3s.

SEPTEMBER 21.—**Eyemouth.**—HOUSES.—Erection of six houses in three blocks, for the T.C. Messrs. Charles Mitchell & Telfer, architects, 2, Randolph-crescent, Edinburgh. Deposit £1.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Bricklayers' Labourers.	Plasterers'
Aberdeen	1/7	1/10½	1/7	1/7½	1/8	1/9	1/7	1/2 to 1/4	
Airdrie	1/8	1/8	1/8	1/8	1/8	1/8	—	1/3	
Alexandria	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2	
Arbroath	1/7	1/7	1/7	1/7	1/7	1/7	1/8	1/1	
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Bathgate	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Blairgowrie	1/7	—	1/7	1/7	1/7	1/7	1/7	—	
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Coatbridge	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Dumfries	1/6	1/6	1/6	1/6	1/6	1/8	1/8	1/2	1/2½ 1/3½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Dunfermline	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/2	
Duns	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/0	
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Falkirk	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	—	1/1½	
Galashiels	1/6	1/6	1/6	1/6	1/6	1/6	1/8	1/1½	
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Greenock	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/1 to 1/3	
Hamilton	1/8	1/6	1/8	1/8	1/8	1/8	1/9	1/7½	
Hawick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Helensburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Inverness	1/6½	—	1/6	1/7	1/6½	1/7	1/6	1/0 to 1/3	
Kilmarnock	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Kirkcaldy	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2	
Kirkwall	1/5	1/5	1/4	1/7	1/5	1/5	1/4	1/2	
Lanark	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3	
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/2	
Motherwell	1/8	1/8	1/8	1/8	1/8	1/8	—	1/3	
Perth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/2	
Stirling	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Stirlingshire (Eastern District)	1/8	1/8	1/8	1/8	1/8	1/8	1/9	1/3	
Wishaw	1/8	1/8	1/8	1/10	1/8	1/8	1/9	1/3	

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 390.

SEPTEMBER 21.—**London, N.**—CLEANING, PAINTING, ETC.—Cleaning, whitewashing, painting, etc., to certain wards, 1st floor, Nurses' Home, and other rooms and departments, at the Infirmary, Highgate Hill, Upper Holloway, N, for the Guardians of the Parish of St. Mary, Islington. Mr. Edmund J. Harrison, Lic.R.I.B.A., architect, 23, Berkeley-road, Crouch End, N.8. Deposit £2.

SEPTEMBER 21. — **Maidenhead.** — EXTENSIONS.—Extension of Post Office, Maidenhead, for the Commissioners of His Majesty's Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

SEPTEMBER 21.—**Walthamstow.**—PAINTING.—Painting of school buildings, for managers of the North London Industrial School. Mr. T. P. Penn, Clerk, 115, High-street, Walthamstow, E.

SEPTEMBER 25.—**Beckenham, Kent.**—EXTENSION.—Extension of the Electric Light Station, Churchfields-road, for the U.D.C. Mr. John A. Angell, Surveyor, Council Offices, Beckenham. Deposit £2.

SEPTEMBER 25.—**Buxton.**—BATHS.—Reconstruction of the Natural Mineral Water Baths, in The Crescent, for the T.C. Mr. F. Langley, Borough Engineer, Town Hall, Buxton. Deposit £5 5s.

SEPTEMBER 25.—**Durham.**—BUILDERS' WORK.—(1) Durham Johnston Secondary School: builder's work in connection with the construction of balconies and alterations to premises to provide means of escape in case of fire; (2) Cassop Council School: builder's work in connection with the alterations to out-offices, and drainage and laying main drain; (3) Chilton Buildings Council School: builder's work in connection with the reconstruction of boundary walls and play shed, for the Durham C.C. Mr. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

SEPTEMBER 25.—**Edinburgh.**—CAR SHELTER.—Erection of a shelter at Braid Hills Car Terminus, Comistonroad, for the T.C. Mr. James A. Williamson, City Architect, City Chambers, Edinburgh.

SEPTEMBER 25.—**Hayes, Middlesex.**—HOUSES.—Erection of 40 houses at Hayes, Middlesex, for the U.D.C. Housing Office, Botwell, Hayes. Deposit £5 5s.

✱SEPTEMBER 25.—**London, W.2.**—SHOPS AND OFFICES.—Erection of shops and offices. Apply by letter to A. H. Middleton, Architect, 56, Queen's-gardens, Hyde Park, W.2.

SEPTEMBER 25.—**Salford.**—SUB-STATION.—Erection of a small sub-station in Moor-lane, Kersal, for the T.C. Borough Electrical Engineer, Electricity Works, Frederick-road, Salford.

SEPTEMBER 25.—**Stoke-on-Trent.**—HOSPITAL BUILDING.—Erection of new cubicle block at Bucknall Infectious Diseases Hospital, for the T.C. Messrs. Martin, Martin & W. H. Ward, architects, 106, Colmore-row, Birmingham.

✱SEPTEMBER 26.—**London, S.W.18.**—HOUSES.—Separate tenders for the erection and completion of (a) 24 further non-parlour houses on the Watney Estate, Southfield, (b) 28 further non-parlour houses on the Furzedown Estate, Tooting, for the Metropolitan Borough of Wandsworth. Architects: Watney Estate, G. L. Elkington, A.R.I.B.A., Norfolk House, 7, Laurence Pountney-hill, E.C. 4; Furzedown Estate, H. B. Elkington, A.R.I.B.A., Norfolk House, 7, Laurence Pountney-hill, E.C. 4. Deposit £2 in respect of each estate.

SEPTEMBER 26. — **Southampton.** — HOUSES.—Erection of 50 semi-detached houses on the Hampton Park Estate, for the County Borough. Borough Engineer's Office, Southampton. Deposit £1 1s.

SEPTEMBER 26.—**Wandsworth.**—HOUSES.—Erection of (a) 24 further non-parlour houses on the Watney Estate, Southfields; (b) 28 further non-parlour houses on the Furzedown Estate, Tooting, for the B.C. Mr. G. L. Elkington, A.R.I.B.A., Norfolk House, 7, Laurence Pountney Hill, E.C.4, for Watney Estate; and Mr. H. B. Elkington, A.R.I.B.A., Norfolk House, 7, Laurence Pountney Hill, E.C.4, for Furzedown Estate. Deposit £2 2s each contract.

SEPTEMBER 28.—**London.**—DWELLINGS.—Erection of a block of dwellings on the Tabard Garden Estate, Southwark, for the L.C.C. Architect to the Council, The County Hall, Westminster Bridge, S.E. Deposit £3.

SEPTEMBER 28.—**Wallasey.**—OFFICE.—Erection of a left luggage office, &c. (wood structure) at New Brighton. Mr. W. H. Travers, Borough Engineer, Town Hall, Wallasey.

SEPTEMBER 29.—**Littleton.**—COTTAGES.—Demolition of 14 cottages and farm buildings, construction of 12 cottages, formation of drainage, fences, paving and paths, &c., at Littleton, for the Metropolitan Water Board. Mr. Henry E. Stilgoe, Chief Engineer, 173, Rosebery-avenue, Clerkenwell, E.C.1. Deposit £5.

SEPTEMBER 29. — **Middlesex.** — COTTAGE DEMOLITION AND CONSTRUCTION.—Demolition of 14 cottages and farm buildings, including outbuildings, walls, fences, and paving, &c., and also the construction of 12 cottages, formation of drainage fences, paving and paths, &c., at Littleton in the Rural District of Staines, Middlesex. Mr. Henry E. Stilgoe, M.Inst.C.E., Chief Engineer, Offices of the Board, New River Head, 173, Rosebery-avenue, Clerkenwell, E.C.1. Deposit £5.

SEPTEMBER 30.—**Blackpool.**—HOUSES, &C.—Erection of 68 houses, contained in seventeen blocks, and for house drainage and fencing respectively in connection therewith, for the T.C. Mr. Edgar D. Dennis, architect, 27, Clifton-street, Blackpool. Deposit £4 4s.

✱SEPTEMBER 30.—**Southampton.**—SCHOOL.—Erection of a new school at Andover (with Army hutting), for the County Borough of Southampton. Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

SEPTEMBER 31.—**Newton-in-Makerfield.**—HOUSES.—Erection of 16 type "A" houses (in brick) at the South Mesnes, Earlestown, for the U.D.C. Council's Surveyor, Town Hall, Earlestown.

✱SEPTEMBER.—**Hyde.**—TELEPHONE EXCHANGE.—Erection of a new telephone exchange at Hyde, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, S.W.1. Deposit £1 1s.

OCTOBER 2.—**Glasgow.**—HOUSES.—Erection of 226 houses at Hawthorn-street, for the T.C. Mr. J. Lindsay, Town Clerk, City Chambers, Glasgow.

OCTOBER 2.—**Lichfield.**—CONVENIENCES.—Erection of sanitary conveniences in the Market-place, for the T.C. Mr. Percy A. Benn, City Surveyor, Guildhall, Lichfield. Deposit £2 2s.

OCTOBER 2.—**S.W. England.**—WORKS AND REPAIRS.—War Department contracts for works and repairs in the South-Western area from October 2, 1922. Separate tender for the various towns will be accepted. Royal Engineer Office, Mount Wise, Devonport.

✱OCTOBER 3.—**Chelsea, S.W.**—DECORATIONS.—Internal painting, whitewashing and repairs to the staircases and corridors of the main block at the Infirmary, Cale-street, Chelsea, for the Guardians of the Poor of the Parish of Chelsea. Mr. Edmund J. Harrison, architect, 23, Berkeley-road, Crouch End, N.8. Deposit £2.

OCTOBER 3. — **Hemel Hempstead.** — COTTAGES.—Erection of 10 cottages for the Borough Council. Mr. Walter R. Locke, Borough Engineer and Surveyor, Market-square, Hemel Hempstead. Deposit £1 1s.

✱OCTOBER 3. — **London, S.W. 18.** — PAINTING.—Painting, &c., at the intermediate Schools, Swaffield-road, Wandsworth, S.W. 18. Mr. F. J. Curtis, Clerk, Union Offices, St. John's-hill, Wandsworth, S.W. 18.

OCTOBER 5.—**Roehampton.**—HOUSES.—Erection on the Roehampton Estate, Putney, of 168 cottages, for the L.C.C. Architect to the Council, County Hall, Westminster Bridge, S.E. 1. Deposit £3.

NO DATE. — **Bramley.** — HOUSE. — Erection of steward's detached dwelling house, Working Men's Club, Elder-road, Bramley. Mr. Wm. Shackleton, architect, Manor House-street, Pudsey.

NO DATE.—**Darwen.**—ALTERATIONS.—Structural alterations and additions to the quarters, Fourth and Fifth Battalion East Lancashire Regiment, Everton-street, Darwen. Surveyor, East Lancashire T.A. Association, Town Hall Chambers, 52, Warrington-street, Ashton-under-Lyne. Deposit £1 1s.

NO DATE.—**Dowlais (Merthyr).**—PAINTING OF CHAPEL.—For painting of windows, doors, pipes, etc., of Gwemllywyn Chapel, Dowlais, for the Trustees, with a certain amount of cleaning and renovating work. Also for painting of Cwmrhydybed schoolroom, Francis-street, for the Trustees, D. B. Williams, Aeron House, Walter-street, Dowlais.

NO DATE.—**Keighley.**—MILL.—Erection of a spinning mill at Ingrow, near Keighley. Messrs. Moore & Crabtree, architects, Station Buildings, Keighley.

NO DATE.—**Rochdale.**—EXTENSION.—Extension of the headquarters of the Sixth Battalion Lancashire Fusiliers, Baron-street, Rochdale. Surveyor, East Lancashire T.A. Association, Town Hall Chambers, 52, Warrington-street, Ashton-under-Lyne. Deposit £1 1s.

✱NO DATE.—**Scunthorpe and Frodingham.**—HOUSES.—Erection of one pair of "A" Type houses and one pair of "B" type houses. Builders and contractors who are willing to tender apply to J. F. Auld, Clerk to the Council, Council Offices, Scunthorpe, Lincs.

✱NO DATE.—**West Sussex.**—COTTAGES AND FARM BUILDINGS.—Erection of new cottages, new farm buildings, and adaptations and repairs to existing cottages and farm buildings on the Small Holding Estates known as Aldingbourne, Hatches, and Flansham, have been cancelled. The West Sussex County Council Small Holdings Committee are now prepared to consider fresh tenders for the work on a curtailed basis. Mr. Haydn P. Roberts, F.R.I.B.A., County Architect, Westgate, Chichester. Deposit £1 1s.

FURNITURE, MATERIALS, etc.

SEPTEMBER 16.—**Bury.**—STORES.—Supply of stores to the Gas Department. Mr. H. Simmonds, engineer, Gas Works, Eton, Bury.

SEPTEMBER 16.—**Manchester.**—MATERIALS.—Supply to the Rivers Department (a) Lime (120 tons); (b) rope waste (70 cwt.); (c) shovels and forks (51 dozen). Secretary, Rivers Department, Town Hall, Manchester.

SEPTEMBER 16. — **Stafford.** — MATERIALS.—Supply of stores and materials, for the T.C. Mr. W. Plant, A.M.Inst.C.E., Borough Engineer, Borough Hall, Stafford.

SEPTEMBER 18.—**Bedwellty.**—KERBS, ETC.—Supply of about 1,250 yds. of 12 in. by 4 in. dressed kerb and channel to the U.D.C. Mr. Dan H. Price, surveyor, Aberbargoed, via Cardiff.

SEPTEMBER 18.—**Feltham.**—GRANITE.—Supply of 2½ in. and 1½ in. granite, approximate quantities 1,000 tons and 250 tons respectively, to the U.D.C. Mr. H. W. A. Carter, Surveyor, Council Offices, Feltham, Middlesex.

SEPTEMBER 18.—**Ilford.**—MATERIALS.—Supply to the U.D.C. of road materials, iron castings, &c. Mr. H. Shaw, Surveyor, Town Hall, Ilford.

SEPTEMBER 18.—**Manchester.**—MATERIALS.—Supply to the Paving, Sewering, and Highways Committee of the T.C. for road materials, bricks, etc. Paving Department, Town Hall, Manchester.

SEPTEMBER 18. — **Tadcaster.** — SUPPLIES. — For brushes, &c., for the B.G. Mr. Geo. A. Bromet, Clerk, Tadcaster.

SEPTEMBER 18.—**Warrington.**—MATERIALS.—Supply of concrete flags, concrete kerbs, Rawtenstall kerbs, sewer pipes, &c., tarred macadam and chippings to the T.C. Mr. A. M. Ker, Borough Engineer, Warrington.

SEPTEMBER 19.—**Bedwellty.**—SUPPLIES.—For supply to Tredegar, Bedwellty, Blackwood and Ebbw Vale Institutions of the Bedwellty Union, three months' supply of glassware, ironmongery, tools, hardware, etc., tenders to include delivery. Mr. William Hall, Clerk to the Guardians, Union Offices, Tredegar.

SEPTEMBER 19.—**Gosport.**—MATERIALS.—Supply to the U.D.C. of road and other materials. Surveyor, Town Hall, Gosport.

SEPTEMBER 20.—**Dublin.**—MATERIALS.—Supply of stores to the Great Southern & Western Railway (Ireland) Co. Mr. R. Crawford, Secretary, Kingsbridge Terminus, Dublin.

SEPTEMBER 21.—**Dewsbury.**—FITTINGS, &C.—Supply to the Board of Guardians of a quantity of piping and fittings. Mr. E. T. Tunnicliffe, Clerk, Union Offices, Wellington-street, Dewsbury.

SEPTEMBER 21.—**Hendon.**—MATERIALS.—Supply of road and other materials to the R.D.C. Mr. H. W. Rackham, Council Offices, Stanmore.

SEPTEMBER 21.—**Newburn.**—MATERIALS.—Supply of highway materials to the U.D.C. Mr. T. Gregory, Surveyor, Council Offices, Newburn-on-Tyne.

SEPTEMBER 25.—**Bucklow.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. R. C. Cordon, Highway Surveyor, Knutsford.

SEPTEMBER 25.—**Repton.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. H. S. Askew, Clerk, Union Offices, Burton-on-Trent.

SEPTEMBER 25. — **Westminster.** — MATERIALS. — Supply of road and other materials to the C.C. Mr. John Hunt, Town Clerk, City Hall, Charing Cross-road, W.C.2.

SEPTEMBER 27.—**Johannesburg.**—BRASS LOCKS.—Supply to the T.C. of 1,475 brass locks. Department of Overseas Trade, 35, Old Queen-street, S.W.

SEPTEMBER 30.—**Haverfordwest.**—TOOLS.—For supply during twelve months ending September 30, 1923, of workmen's tools for Haverfordwest R.D.C. Mr. J. A. Rice, Highway Surveyor, Letterston (Pemb.).

SEPTEMBER 30.—**Mansfield.**—EQUIPMENT.—For furnishing and equipping the Ransom Sanatorium (80 beds), Mansfield, for Nottinghamshire County Council. County Medical Officer, Shire Hall, Nottingham.

ENGINEERING, IRON AND STEEL.

SEPTEMBER 16.—**Ely.**—HEATING ALTERATIONS.—For alteration and re-arrangement of steam heating, hot-water supply and cooking apparatus, &c., at the Poor Law Institution, for Ely Union. Guardians' Offices, 11, Lynn-road, Ely.

SEPTEMBER 18.—**Brighton.**—BOILER HOUSE PLANT.—For two water-tube boilers and accessory plant, for the Corporation. Mr. J. Christie, Borough Electrical Engineer, North-road, Brighton. Deposit £2 2s.

SEPTEMBER 18.—**Port Talbot.**—STEEL TUBES, PIPES, ETC.—For supply of steel tubes, fittings, cast iron, stoneware, water pipes, etc., for six months ending June 30 next, for the Port Talbot Borough Council. Mr. Moses Thomas, Town Clerk.

SEPTEMBER 18.—**South Rona.**—BEACON.—Construction of a concrete beacon on a tidal rock which lies off the northern end of South Rona, for the Commissioners of Northern Lighthouses. Mr. C. Dick Peddie, Secretary, Northern Lighthouse Board, Edinburgh. Deposit £1.

SEPTEMBER 18.—**Swansea.**—CENTRAL HEATING.—Specifications, etc., for central heating of Tawe Lodge from Consulting Engineers, resident or practising in the Swansea Union. Llewn. Jenkins, Clerk to the Guardians, Union Offices, Alexandra-road, Swansea.

SEPTEMBER 19. — **Leeds.** — SEWER IRONWORK. — Supply of sewer ironwork during the five months ending March 31, for the T.C. Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

SEPTEMBER 19.—**Warrington.**—RAILS.—Supply of 250 tons steel tramway girder rails of "E.S." Section No. 3, 100lb. per yard. Tramways Manager, Car Sheds, Mersey-street, Warrington.

SEPTEMBER 20.—**Ashton-under-Lyne.**—HOT WATER SUPPLY.—Reconstruction of the domestic hot-water distribution pipes in the Male Pavilion of the Lake Hospital, for the B.G. Mr. H. Hall Daley, Clerk, St. Michael's-square, Ashton-under-Lyne.

SEPTEMBER 20.—**Cardiff.**—STEEL TRAMWAY RAILS.—For supply, manufacture, and delivery of 175 tons of steel tramway rails (British Standard, Section No. 7), by firms on King's Roll, for the Cardiff Corporation. Mr. C. G. Brown, Town Clerk, Cardiff.

SEPTEMBER 20.—**Islington.**—BOILER, &C., PLANT.—For two water-tube boilers and accessories, steel chimneys, cooling towers, ponds, &c., for the Electrical Department of the B.C. Chief Engineer, 50, Edengrove, Holloway, N.7.

SEPTEMBER 20.—**Manchester.**—HEATING INSTALLATION.—For the heating of pavilions No. 1 to No. 7, at the Withington Hospitals, Nell-lane, West Didsbury, for the B.G. Mr. Hargreaves, Superintendent of Works, Union Offices, All Saints', Manchester. Deposit £2 2s.

SEPTEMBER 20. — **Richmond (Surrey).** — PUMPING PLANT.—(1) Supply, at the Water-lane pumping station of two steam pumping engines; (2) one electrically-driven centrifugal Booster pump for the high-level district supply, for the T.C. Mr. H. Will. Apted, Water Engineer, Waterworks, Richmond (Surrey). Deposit £1 1s.

SEPTEMBER 21.—**Abergavenny.**—HOT WATER SYSTEM.—For installation of hot water system at the Poor Law Institution, Abergavenny, for the Board of Guardians. Mr. Walter Prichard, Architect, 16, Monk-street, Abergavenny.

SEPTEMBER 22.—**London.**—VARIOUS GOODS.—(1) Saw blades for stone-sawing plant, (2) galvanised iron wire, 450 lbs. per mile, (3) trailer wagons for road rollers, (4) cast-iron soil and waste pipes, for the High Commissioner for India. Director-General, India Store Department, Branch No. 12, Belvedere-road, Lambeth, S.E.

SEPTEMBER 22.—**Warminster.**—PUMP.—Repairs to pump at Smallbrook pumping station, for the U.D.C. Mr. T. J. Rushton, Clerk, Council Offices, Warminster.

SEPTEMBER 23.—**Friern Barnet.**—SEWERAGE PLANT.—Supply of pneumatic ejectors, air compressors, gas engine, &c., to the U.D.C. Mr. F. P. Kindell, Surveyor, Council Offices, Friern Barnet-road, N. Deposit £2.

SEPTEMBER 26.—**Mid-Glamorgan.**—MATERIALS.—The Mid-Glamorgan Water Board invites tenders for the supply of materials, as follows, to any part of the Board's area, for six months, commencing October 1, 1922:—Galvanised water piping and pieces for same, including all supplementary connectors, back nuts, elbows, bends, tees (equal and reducing), plain and diminishing sockets, caps, springs, long screws, nipples,

crosses, etc., stop-cocks and union ferrules for lead and iron, caps and lining, ball valves, bib taps, brass bosses, lead piping (¾ in. to 2 in.) in various weights per yard, plumber's solder, white lead, pig lead, stop-cock, surface boxes, leather washers, hack saws and blades, 2-gal. w.c. cisterns with bracket complete, fibre washers, pipe hooks (per gross), pipe cutter wheels, etc. Mr. Elryn W. Davies, Water Board Offices, Bridgend.

SEPTEMBER 29.—**Birmingham.**—MACHINE TOOLS.—For power-driven lathes, machine tools, line shafting and pulleys, for Nechells Generating Station. Mr. E. J. Jennings, Secretary, 14, Dale-end, Birmingham. Deposit, £1 1s.

SEPTEMBER 29.—**London.**—RAILWAY MATERIALS.—Supply to the Bengal and North-Western Railway Co.: 200 pairs wheels and axles for carriages and wagons. Mr. E. A. Neville, Managing Director, 237, Gresham House, Old Broad-street, E.C.2. Charge 10s.

SEPTEMBER 29.—**London.**—MATERIALS.—Supply to the High Commissioner for India of (1) Tubing copper (solid drawn); (2) pins (split), and screws for wood; (3) files. Director-General, India Store Department, Belvedere-road, Lambeth, S.E. 1.

SEPTEMBER 30. — **Gellygaer.** — MATERIALS. — Supply of paving, kerb and channel drain pipes, cement and lime, cast iron goods, smith-work, etc., to Gellygaer U.D.C. Mr. John Evans, Clerk, Council Offices, Hengold.

OCTOBER 4. — **London.**—RAILWAY MATERIALS.—Supply to the South Indian Railway Company of (1) 704 axle-boxes for wagons; (2) 36,000 fog signals; (3) rivets, nuts and pins. Mr. A. Muirhead, Managing Director, 91, Petty France, S.W. 1. Charge, 10s. per specification.

OCTOBER 4.—**London.**—RAILWAY MATERIAL.—Supply to the South Indian Railway Co. of (1) 46 metre gauge locomotives and six locomotive boilers; (2) 108 metre gauge wagons; (3) bridgework. Company's Offices, 91, Petty France, Westminster, S.W. 1. Charges, £2 for (1), and £1 for (2) and (3).

NOVEMBER 28.—**New Zealand.**—CRANE.—Supply to the Auckland Harbour Board, New Zealand, of one 1-ton fixed pedestal crane for King's Wharf. Messrs. W. and A. McArthur, Ltd., 18-19, Silk-street, Cripplegate, E.C.2. Deposit £1 1s.

DECEMBER 18.—**Victoria.**—COAL HANDLING PLANT.—For coal handling plant for the Morwell Power scheme, for the Victorian State Electricity Commission. Agent-General for Victoria, Melbourne-place, Strand, W.C.2. Deposit £2 2s.

FEBRUARY 1, 1923.—**Auckland.**—ELECTRIC CRANES.—For the supply of twelve five-ton (alternatively three-ton) semi-portal balanced jib electric quay cranes, four five-ton (alternatively three-ton) balanced jib electric roof cranes, and six one-ton electric monorail cranes, for Auckland Harbour Board. Messrs. W. & A. McArthur, Ltd., 18-19, Silk-street, Cripplegate, London, E.C. 2. Deposit £2 2s.

ROAD, SANITARY, AND WATER WORKS.

SEPTEMBER 16.—**Halifax.**—ROADS.—(*a*) Concrete foundation to wood block paving in Corn Market and Southgate (about 2,130 yards super); (*b*) supplying and laying wood blocks, for the T.C. Mr. A. C. Tipple, Borough Engineer, Halifax. Deposit £1.

SEPTEMBER 18.—**Bootle.**—ROADS, &C.—Reconstruction of carriageway and footways and the relaying of a 15-in. pipe sewer in Sea View-road, for the T.C. Borough Engineer, Bootle. Deposit £1 1s.

SEPTEMBER 18.—**Glyncorrwg.**—ROADS.—Construction of roads and sewers for the Tynypant Housing Scheme, for the U.D.C. Mr. W. P. Jones, Surveyor, Council Offices, Cymmer, Port Talbot. Deposit £2 2s.

SEPTEMBER 18.—**Kensington.**—WOOD PAVING.—For paving Sydney-place and parts of Pembridge-villas, &c., for the B.C. Borough Engineer, Town Hall, Kensington, W.

SEPTEMBER 18.—**Manchester.**—ROADS.—Making up part of Birch Hall-lane, Rusholme, for the T.C. Paving, &c., Department (District Surveyor's Office), Town Hall, Manchester. Deposit £1 1s.

SEPTEMBER 18.—**Mountain Ash.**—SEWERS.—Construction of about 400 yds. of 9 in. and 6 in. diameter sewers, with manholes, &c., on the Pontcynon Housing Site, for the U.D.C. Mr. W. G. Thomas, Surveyor, Town Hall, Mountain Ash.

SEPTEMBER 18.—**Ruskington.**—WATER MAINS.—laying nearly three miles of water mains, for the U.D.C. Mr. S. F. Clare, Engineer, Sleaford. Deposit £1 1s.

SEPTEMBER 19.—**Alton.**—SEWAGE DISPOSAL WORKS.—Reconstruction at outfall works, for the U.D.C. Surveyor, Town Hall, Alton. Deposit £2 2s.

SEPTEMBER 19.—**Cockermouth.**—SEWERAGE WORKS.—Constructing about 1,400 yards of 9 in., 12 in., 15 in., 18 in., and 24 in. pipe sewers, &c., bacterial sewage purification works, &c., for the U.D.C. Messrs. Taylor & Wallin, Commercial Union Buildings, 47, Pilgrim-street, Newcastle-on-Tyne. Deposit £5.

SEPTEMBER 19.—**Dover.**—ROADS.—For laying 5,000 square yards of asphaltic macadam, for the T.C. Mr. W. B. Smith, Borough Engineer, Maison Dieu House, Dover.

SEPTEMBER 19.—**Liverpool.**—WATER MAINS.—The laying of cast-iron pipes of 42 ins. and 40 ins. internal diameter and other ancillary works, for a distance of about six miles, for the T.C. Water Engineer's Office, Alexandra-buildings, 55, Dale-street, Liverpool. Deposit £5 5s.

SEPTEMBER 19.—**Margate.**—ROADS.—For carrying out private street works in Glencoe-road, Palm Bay-gardens, Palm Bay-avenue, and Beresford-gardens, for the T.C. Borough Surveyor, 13, Grosvenor-place, Margate.

SEPTEMBER 20.—**Boverton.**—For widening and improving the carriageway in the village of Boverton, and constructing a ferro-concrete bridge with works incidental thereto, including excavation, walling, ballasting, and metalling; labour conditions of Unemployment Grant Committee, the work to be carried out for the Cowbridge R.D.C. Mr. G. E. Morris, surveyor, Cowbridge. Deposit £2 2s.

SEPTEMBER 20.—**Cowbridge.**—ROADS.—Widening and improving of the carriageway in the village of Boverton, and construction of a ferro-concrete bridge, for the R.D.C. Mr. G. E. Morris, Surveyor, District Council Offices, Cowbridge. Deposit £2 2s.

SEPTEMBER 20.—**Otley.**—PLAYGROUND.—For repairs to asphalt playground at Otley North Parade Council School, for the West Riding Education Committee. The Secretary, Education Committee, County Hall, Wakefield.

SEPTEMBER 20.—**Richmond.**—ROADS.—For street works in Fitzwilliam-avenue (part of), Gainsborough-road, Temple-road, Burdett-road, Gordon-road, and Dudley-road, for the T.C. Mr. J. H. Brierley, Borough Surveyor, Town Hall, Richmond. Deposit £1 1s.

SEPTEMBER 20.—**Wombwell, near Barnsley.**—URINAL.—For the extension of the present urinal at the Wombwell, John-street Council School, for the West Riding Education Committee. The Education Department, County Hall, Wakefield.

SEPTEMBER 21.—**Bournemouth.**—TRAMWAY PERMANENT WAY.—Reconstruction of permanent way (equal to about 4 miles of single track), for the T.C. Mr. I. Bulfin, Tramways Offices, Wootton-gardens, Bournemouth. Deposit £3.

SEPTEMBER 21.—**Dewsbury.**—SEWER.—The construction of a 54 in. diameter storm-water relief sewer, about 1,100 lin. yards, &c., for the T.C. Alternative tenders are invited for mass concrete and ferro-concrete construction. Messrs. J. Diggle & Son, 14, Brown-street, Manchester, or Mr. H. Dearden, A.M.Inst.C.E., Borough Engineer, Town Hall, Dewsbury. Deposit £3 3s.

SEPTEMBER 21.—**Hollingbourn.**—STEAM ROLLING.—For supply of steam rollers for use on the roads of the R.D.C. Mr. J. Kitsey, Surveyor, High-street, Lenham, Maidstone.

SEPTEMBER 22.—**Doncaster.**—BRIDGE WIDENING.—For widening and rebuilding Hound Hill Bridge, and widening Hound Hill-lane, for the Doncaster R.D.C. and the Bolton-on-Dearne U.D.C. Mr. W. R. Crabtree, Surveyor, Union Offices, Nether Hall-road, Doncaster; or Mr. Adams, Surveyor to the Bolton-on-Dearne U.D.C.

SEPTEMBER 22.—**Lochmaben.**—WATER WORKS.—Construction of an additional open sand filter for the supplying and laying of about 450 lineal yards of 2 in. cast iron pipes and sundry relative works on the Lochmaben waterworks. Mr. W. C. Easton, engineer, 149, West George-street, Glasgow. Deposit £1 1s.

SEPTEMBER 22.—**Nantwich.**—WATER MAINS, &C.—(1) For cast-iron water-pipes, branches, and other pieces; (2) for hydrants, sluice valves, fittings, &c.; and (3) for laying cast-iron water mains, for the parish of Willaston, for the R.D.C. Mr. H. Crabtree, Engineer, 1, Dysart-buildings, Nantwich. Deposit 10s.

SEPTEMBER 23.—**Blackhall.**—ROADS.—For the street formation and other works in connection with the erection of about 250 houses. Mr. James Hamilton, Blackhall Colliery Office.

SEPTEMBER 23.—**Bridlington.**—PAVING.—Providing and laying of about 1,600 sq. yds. of deal wood block paving, for the T.C. Borough Engineer, 1, The Crescent, Bridlington. Deposit £1 1s.

SEPTEMBER 25.—**Alnwick.**—VARIOUS WORKS.—(1) Cleaning out sewage ditch; (2) repairs to lining of reservoir; (3) laying 600 yards of earthenware pipes, for the R.D.C. Clerk, Alnwick.

SEPTEMBER 25.—**Southport.**—PAVING, &C.—Relaying of tramways and new wood block paving in centre of the town, for the T.C. Mr. A. E. Jackson, Borough Engineer, Town Hall, Southport. Deposit £3 3s.

SEPTEMBER 26.—**Windsor.**—MUDDING-OUT.—Mudding-out of Frogmore Lake, Windsor Castle, for the Commissioners of His Majesty's Office of Works, Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s.

✱SEPTEMBER 27.—**London, S.W.**—CONCRETE AND TAR PAVING.—New concrete paving and repairs to tar paving at the South Western Fever Hospital, Landor-road, Stockwell, S.W.9, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

SEPTEMBER 27.—**Ruislip-Northwood.**—SEWERAGE WORKS.—Two revolving circular distributors to be erected at the Outfall Works, Ruislip, for the U.D.C. Messrs. Howard Humphreys & Sons, 28, Victoria-street, Westminster. Deposit £1 1s.

SEPTEMBER 28.—**Stroud.**—ROADS.—Widening of two roads, for the R.D.C. Mr. L. Randerson, surveyor, Meopham, Gravesend.

SEPTEMBER 30.—**Rotherham.**—SEWERAGE.—For the construction of (1) Sewage disposal works (tanks and filters) and 9 in. stoneware pipe sewer in the Parish of Wickersley; (2) sewage disposal works (tanks and filters) and 9 in. stoneware pipe sewer in the Parish of Dalton, for the R.D.C. Mr. C. O. Rawstron, Surveyor, Imperial Buildings, Rotherham. Deposit £3 3s.

Competitions.

(*See Competition News, page 366.*)

Auction Sales, Tenders, etc.

SEPTEMBER 16. — **Acton.** — BUILDING PLANT.—Offers for the whole or part of surplus building plant now lying in stores in Brassie-avenue on the East Acton Housing Estate. Mr. Wm. Hodson, Town Clerk, Borough of Acton, Municipal Offices, Acton, W.3, endorsed "Tenders for Surplus Plant."

SEPTEMBER 19.—**London, W.**—Messrs. Collins & Collins will sell at 156, New Bond-street, W., the surplus stock of Messrs. Aldam, Heaton & Co., Ltd., who have disposed of the lease of these premises, the valuable antique and modern furniture. Auctioneers, 37, South Audley-street, Grosvenor-square, London, W.1.

SEPTEMBER 19.—**Norbury.**—Messrs. Hampton & Sons will sell at the St. James' Estate Room, 20, St. James'-square, S.W.1, the freehold building estate of about 6 acres. The property is a portion of the Pollards Hill Estate, with frontages to existing roads. Auctioneers, 20, St. James'-square, S.W.1.

SEPTEMBER 20. — **Pinner.**—Messrs. Duncan B. Gray & Partners will sell, in about thirty lots, at the Parish Hall, Pinner, freehold building plots on Barrow Point Estate. Auctioneers, 129, Mount-street, Grosvenor-square, W.1.

✱SEPTEMBER 20.—**Tooting, S.W.**—Messrs. Davis & Moon will sell nearly new builders' and contractors' stock and plant, &c., at the yard and workshops in Maybury-street, at 12 o'clock. Auctioneers, 285, Borough High-street, S.E.1.

✱SEPTEMBER 21.—**London, E.C.**—Messrs. Fryer, Cooper & Co. will sell at their Rooms, 3, Redcross-street, E.C.1, 20,000 pieces of wallpaper of various kinds. Auctioneers, as above address.

✱SEPTEMBER 21.—Messrs. Francis Dod & Co., F.A.I., will sell by Order of the Receiver of T. J. Gabb, Ltd., at 22½, Cazenove-road, Stoke Newington, plant, stock, fixtures and fittings of a business of shopfitters, signwriters and furnishers, machine and motor (Elliott), including mortise, spindle and drilling machines, &c. Auctioneers: Equity House, Grocers' Hall-court, Poultry, E.C. 2, and 35, Stamford-hill, N.16.

SEPTEMBER 22.—**London, N.W.**—Messrs. Leopold Farmer & Sons will sell by order of the Public Trustee, G. E. Way, deceased, at the London Auction Mart, 155, Queen Victoria-street, E.C., valuable freehold waterside premises covering approximately quarter of an acre, in addition is a six-roomed dwelling-house. The property is known as Bewlay, Cliff Wharf, James-street, Camden Town, N.W. Auctioneers, 46, Gresham-street, Bank, E.C.2.

SEPTEMBER 26. — **London, N.** — Messrs. Joseph Hibbard & Sons will sell, by order of Messrs. Brand, Pettit & Co., owing to dissolution of partnership, the freehold modern factory premises and residence used as joinery works, known as 247, West Green-road (one minute from West Green Station (G.E.R.) brick-built mill with glass roof timber-built annexe, residence of eight rooms and bathroom. Auctioneers, 15, Newington-green, Islington, N.

SEPTEMBER 26. — **Stanmore, Middlesex.** — Messrs. J. T. Skelding & Co. will sell, by order of Messrs. Kirby & Co., upon their premises, works and sawmills, Stanmore, Middlesex, surplus builders' and contractors' plant, stock timber, woodworking machinery, &c. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

SEPTEMBER 26 AND 27.—**Herts.**—Messrs. Joseph Hibbard & Sons will sell, by order of Messrs. Timber Operators & Contractors, Ltd., at the Depot, Marshmoor Mill, Herts (two miles from Hatfield, on the main London road), stock of dry English timber, including ash and oak, &c. Auctioneers, 15, Newington-green, Islington, London, N.16.

SEPTEMBER 26 AND 27. — **London, N.** — Messrs. Joseph Hibbard & Sons will sell without reserve, by order of Messrs. Brand, Pettit & Co., owing to dissolution of partnership, upon the premises, 247, West Green-road, and Downhill Farm, Downhill Park-road, close to West Green Station (G.E.R.), and near to Queen's Head, Wood Green, the plant and stock of builders, contractors and saw mills, including office furniture. Auctioneers, 15, Newington-green, Islington, N.16.

✱SEPTEMBER 28. — **Woodford, Essex.** — Messrs. Joseph Hibbard & Sons will sell, without reserve, re Woodford District Council Housing Scheme, at the Depot, Danbury Way, Snakes-lane (three minutes from Woodford Station, G.E. Rly., and ten minutes from Castle Hotel, Woodford Green), timber and building material, drain pipes, new hob register stoves, &c. Auctioneers, 15, Newington Green, Islington, N.16.

OCTOBER 10.—**Kent.**—Messrs. John D. Wood & Co. will sell (unless previously disposed of) at the London Auction Mart, 155, Queen Victoria-street, E.C., by order of the mortgagees in possession, the freehold property known as the Orpington Golf Course, extending to about 66½ acres, with modern club house. Auctioneers, 6, Mount-street, London, W.1.

Public Appointments.

SEPTEMBER 27.—**North Woolwich.**—District Surveyor for the district of Woolwich required by the London County Council. Candidates must be between the ages of 28 and 50 years on the latest date for receiving applications, and must hold the certificate of the R.I.B.A. under section 140 of the said Act. Mr. James Bird, Clerk to the London County Council.

✱OCTOBER.—**India.**—Assistant inspector of stores required by the High Commissioner for India. Director-General, India Store Department, Belvedere-road, Lambeth, S.E.1. (Quote Ref. S.5967/1922.)

Census Reports.

The Registrar-General announces in a circular, with reference to the form and contents of the statistical tables embodying the Census results, that the reports will be issued in "County Parts," each County Part comprising, for a particular Administrative County with its associated County Boroughs, the whole of the Census statistics which can suitably be presented in that form. On the completion of this series, certain Subject Volumes will be issued, presenting for the country as a whole the statistics respectively relating to those heads of subject matter which are unsuitable for presentation in the County Part series. Included in the reports will be housing statistics.

PROPOSED NEW BUILDINGS & OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council: E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council

AMBLE.—Plans passed by U.D.C.:—Additional works at Amble House.

AMERSHAM.—Plans passed by R.D.C.: House, Grimsdell-lane, Amersham; bungalow, Pednor-bottom, Chesham; shops and houses, Gold Hill-lane, Chalfont St. Peter; two bungalows, Penfold-lane, Holmer Green; bungalow, Chalfont-road; additions to house, Martins-lane, Great Missenden; garage, London-road, Amersham; house, Chiltern-road, Chesham Bois; cottage, Chalfont Station Village; house, Chalfont Station Village; lock-up shop, Gold Hill-lane, Chalfont St. Peter; alterations to house, Austenwood Common; three houses, Chiltern-road, Chesham Bois; house, Sixty Acres-road, Prestwood; house, New-road, Chalfont St. Giles; house, Whelpley-hill, Ashley Green; two houses, White Lion-road, Amersham; house, White Lion-road, Amersham; house, Copthall-lane, Chalfont St. Peter; alterations and additions, Maple Tree Farm, Chartridge; two cottages, Rawlings-lane, Seer Green; furniture shop, Woodside-road, Amersham; conversion of chapel into dwellings, Ashley Green; house, Nicol-road, Chalfont St. Peter; house, Stubbs Wood, Chesham Bois; and house, Pollard's Wood, Chalfont St. Giles.

ASHTON-UNDER-LYNE.—The Ministry of Health who had sanctioned the purchase of the Heys estate for the building of houses by the Corporation, and then, after the first 30 houses had been erected, ordered that no more should be built, have now agreed to the erection of an additional 60 houses, on the understanding that the Corporation make themselves responsible for the building of 30 of them. It is stated that the houses are to be of "a more acceptable type" for the workers than those already built on the estate.

AUDENSHAW.—Plans passed by the U.D.C.: Houses, Droylsden-road, for Mr. S. Hadfield; semi-detached houses, Stamford-road, for Mr. J. Henshall.

BAKEWELL.—The B.G. has decided to install the electric light at the workhouse.

BARROW-IN-FURNESS.—Building operations are shortly to commence on the extensions to the North Lonsdale Hospital and Devonshire-road Hospital. The North Lonsdale Hospital scheme is estimated to cost between £13,000 and £14,000, part of which will be provided by the Red Cross Society, and will include extensions, more accommodation for the nurses, an administrative block, men's wards, and children's wards. The Devonshire-road Hospital scheme will cost about £6,000. The administrative block is to be considerably enlarged, and a new isolation block erected.

BLACKWELL.—"Building is coming back into its own," said the surveyor, in presenting a number of plans for houses, including 50 for the Shirebrook Colliery Co., at the last meeting of the R.D.C.

BRIDGEND.—The U.D.C. has passed the following plans: Bungalow for Mr. Diamond, Bridgend; four new houses at Merthyr Mawr-road, for Mr. Pickering, Pencoed; outbuildings at Merthyr Mawr-road, for Mr. David Thomas, Bridgend. The plans submitted by Mr. D. E. Jones, Bridgend, for new house at Colty were deferred until next meeting. The Works Committee is considering the widening of Rhiew-road. The Council agreed to the Penybont Council joining new sewers to Litchord-terrace main sewer. The Works Committee has been instructed to consider further an extensive improvement scheme in connection with unemployment relief.

BRIDLINGTON.—Plans have been approved by the R.D.C. for the erection of a cafe on Sewerby Cliffs, for Mr. J. H. Barkley; and for a bungalow at Bempton, for Mr. H. Rawlinson.

BURTON-ON-TRENT.—The scheme for the widening of the Trent Bridge, which has been discussed for so many years, is to be once more considered by the T.C. with a view to providing work for the unemployed.

BUXTON.—Plans passed by T.C.: Petrol storage tank off Wye-street, for the Buxton Lime Firms Co., Ltd.; bay window, Macclesfield-road, for Capt. Bennett; additions to house in Lightwood-road, for Mr. F. W. Booth; detached residence in Temple-road, for Mr. J. F. Judson; detached residence in Macclesfield-road, for Mr. T. Powell; detached residence in Green-lane, for Mr. W. R. Hall.

CAERPHILLY.—The U.D.C. has received sanction for a loan of £8,400 in connection with the promotion of an electricity supply scheme for the district. This amount does not include the sum required for poles and wire erection.

CARLISLE.—Plans passed by R.D.C.: Two semi-detached houses at Scotby, for Mr. H. Higginson.

CARMARTHENSHIRE.—The Roads and Bridges Committee of the County Council was informed by the West District Surveyor that the Ministry of Transport would consider a comprehensive scheme of main roads improvement and probably make a 50 per cent. grant providing the work was on arterial roads. The Committee decided to consider the matter in detail at the next meeting. The classification of the roads is proceeding and will facilitate an early start on the scheme if decided upon.

COLWYN BAY.—An option to purchase some 8,000 yards of land situated between Rhos-road and Brompton-avenue, in the Rhos-on-Sea area, has been obtained by Messrs. W. Howe and F. T. Taylor, with a view to the laying-out of the land as a bowling-green and tennis courts. A committee of residents has been formed to ascertain whether the requisite financial support can be secured. It is estimated that the cost of land and laying-out, including the provision of a club house, will be about £3,000.

DEAL.—Plans passed by T.C.: House, Manor-avenue, Messrs. J. E. Hayward & Sons, for Mr. Wheatley; additions to premises, Stanhope-road, Messrs. Cavell, for Mr. Attwell.

DEVIZES.—Plans passed by R.D.C.: Cottage by the Small Holdings Committee of the Wilts C.C., at "The Firs," Rowde; alterations to "Redlynch," Potterne-road, for Mr. H. Tull, by W. E. Chivers & Sons.

DEWSBURY.—Plans passed by T.C.: Yorkshire Dyeware & Chemical Co., Ltd., garage at Calder Dyeware Mills; Messrs. Reckitt & Sons, Ltd., reinforced concrete chimney, Thornhill Works; Messrs. J. Pickles & Sons, alterations to shop premises, Corporation-street; Messrs. Marshall, Kaye & Marshall, Ltd., bathroom, &c., Ravensthorpe; Mr. H. Rowley, firewood store, Broad-street; Mr. H. Chadwick's Exors., motor garage, Robinson-street; Mr. G. Shadlock, motor garage, Fairfield-terrace, Old Bank-road; and Dewsbury Pioneers' Industrial Society, Ltd., operating and re-winding rooms, Industrial Hall.

DONCASTER.—At a meeting of the Finance and General Purposes Committee it was recommended that application be made to the Minister of Health to borrow £14,500 for the purchase of the land and premises, 53 and 54, Hall Gate, and the cost of altering the premises to adapt same for use as offices for the Borough Accountant's and Education Department.—Alderman Theobald, chairman of the Housing Committee, has recently had an interview with the Minister of Health with respect to the erection of additional houses at Doncaster, and the Council, as the result of the interview, has decided to invite tenders for 80 houses, and, provided the tenders show that the houses can be built to let at an economic rent, it is proposed to proceed with the work as quickly as possible.

DOUGLAS.—The Council have a scheme for widening Harris Promenade seaward and bringing it into line with Loch Promenade. This would cost £68,000. It is anticipated that the scheme will be brought before the Manx Legislature for approval, and the Government subsidy will be asked for.

DUNDEE.—At the last meeting of the T.C. a report was presented dealing with the suggested clearances of slum areas. Twenty-two areas are scheduled. The City Engineer has been instructed (1) to select the slum areas which would involve the least difficulties in clearance, and (2) submit particulars of sites and plans and estimates of temporary houses.

EDINBURGH.—A warrant for the erection of a workshop at Ferry-road has been granted to Messrs. Pratt Bros., joiners, Leith.

FAREHAM.—Plans passed by U.D.C.: Mr. C. W. Hulley, 6 bungalows, Hill Farm Estate; Mr. A. F. Williams, bungalow in Gudgeheath-lane; Mrs. Sims, house in Park-lane; Messrs. W. Read, two bungalows, Funtley Hill; Mrs. Pullen, alterations and additions to 73 and 75, West-street; Mr. W. Bartlett, stone in Fareham Market Field; Major Hulbert, garage, Kiln-road, approved; Mr. A. J. Mulvaney, store at 102, West-street.

GATESHEAD.—A scheme of road and other improvements, involving an outlay of £70,000—about one-third of which will be handed on as wages—has been prepared by the Corporation.

GLASGOW.—Apart from the housing scheme at Pollokshaws, for which the Corporation has received sanction to proceed, house-building ventures by private contractors in the districts of Shawlands and Cathcart were items of unusual importance among the applications dealt with by the Dean of Guild Court at its last meeting. There were in all 74 cases, including a number of prosecutions for Guild offences. Sir Alexander Gracie, Dean of Guild, presided. The linings granted included: Glasgow Corporation Housing Department, to erect dwelling-houses, shops, &c., at Factory-street, Pleasance-street, M'Arthur-street, and M'Dougall-street, Pollokshaws. Sisters of the Good Shepherd, Dalbeth, Tollcross, additions to convent piggeries, 1556, London-road. William Cook, joiner, 1010, Pollokshaws-road, to erect four houses of five apartments at St. Ronan's Drive, Shawlands. The Most Rev. Donald M'Intosh, Roman Catholic Archbishop of Glasgow, to erect a new school in the street at Nimmo-drive, Govan. The school will be two stories in height, and will cost approximately £13,000. Glasgow Parish Council, to erect a plant-house and potting-house in grounds of Stobhill General Hospital, Springburn. Glasgow Public Utility Society, Ltd., 203, West George-street, to erect 18 blocks of four and five apartment dwelling-houses at Glasserton-road and Merrylee-road, Cathcart. The estimated cost is about £22,000. Glasgow North-Western Mission of the Wesleyan Methodist Church, to erect hall at Maryhill-road.

GREENOCK.—A new main thoroughfare is to be proceeded with, this being one of the developments of the extensive scheme now in progress at Messrs. Harland & Wolff's shipyard. It will be a sixty-foot road, and the intention is to begin work soon with unemployed labour.

HARLECH.—St. David's Hotel, Harlech, which was destroyed by fire last May, is to be rebuilt immediately at a cost of £30,000. The contract has been let to Messrs. Trollope & Colls, of London and Liverpool. The new hotel, which will contain over a hundred bedrooms, has been designed by Messrs. O. M. Roberts & Son, architects, Portmadoc, and is to be ready by next July.

HENGOED.—The Gelligaer U.D.C. is considering erecting a sub-power station in connection with electricity supply at Hengoed.

HINCKLEY.—Plans passed by U.D.C.: Boiler-house, seating, &c., and a tower, at the Standard Works, for Bennett Bros.; alterations, at 74, Castle-street, for Mr. F. Burton; two houses, Clarendon-road, for Mr. J. Payne; extension of Priesthills-road, for Messrs. Greaves; factory, "The Orchard," for Bodycote & Geary; garage, Ashby-road, for Mr. Busby; house, Mount-road, for Mr. S. J. Pratt; drainage, for Mr. S. J. Pratt; drainage, for Mr. S. J. Pratt; additions to factory, New Buildings, for Davis & Sons.

HUCKNALL.—It is stated that Mr. and Mrs. J. Cahn intend erecting almshouses at Hucknall, Lindy and Popplewick. The father of Mr. Cahn left £2,000 for this purpose, and Mr. and Mrs. Cahn intend adding another £8,000.

HUDDERSFIELD.—A Ministry of Transport inquiry has been held into the proposed tramways extension in Leeds-road, to deal with football traffic.

HUNSTANTON.—Plan passed by U.D.C.: House for gas manager.

KIRKBY-IN-ASHFIELD.—Mr. R. C. Cox, Ministry of Health Inspector, has held an inquiry into the application of the U.D.C. for permission to borrow £1,150 for the purpose of erecting a new public convenience in Station-street.

LEEDS.—Plan passed: Committee and cloak rooms, at Dancing Hall, Camp-road, for Mr. Max Goldstone.

LLANELLY.—The B.C. has decided to apply for sanction for the erection of 200 houses. A plan for Messrs. J. & B. Evans for new shop at Falcon Bridge, with building projecting over river, has been referred to surveyor for arrangement of minor alterations with Messrs. Evans.

LONDON (HACKNEY).—Plans passed by B.C.: J. R. Cordell & Sons, workshop, Swinnerton-street; J. Jarvis & Sons, extension of generating station, Millfields-road; H. J. Ramus, two shops with flats, 68 and 70, Brooksby's-walk; H. Crawley & Co., addition at St. Joseph's Hospice, Mare-street; Rego Clothiers Co., alterations, 383, Mare-street; A. J. King, Ltd., additions, 132A, De Beauvoir-road; Chessums, Ltd., alterations, London County Westminster & Parr's Bank, 74 and 76, Kingsland High-street. Drainage plans passed: Yeowell, F. W., 46, Church-road, Homerton; W. Morley, at 24, London Fields West Side; A. J. King, Ltd., at 15, Warwick-road; Nippress, A. H., at 160, Sandringham-road; F. Bull, at 113 to 127, Kingsland High-street; A. Meekcom, at 90, Kyverdale-road; L. T. E. Llewellyn, 72 and 74, Holly-street; P. J. Bowden, at 10, Fletching-road; C. & F. Nind, at 146, Southgate-road; C. R. Shorey, at 98, Holly-street; Holsworth & Huckett, at 20, 22, and 24, Detmold-road; F. C. Hind, at Great Eastern Railway Company's arches, 402 and 403, Mentmore-terrace; J. Timmins & Son, at 24 and 26, Detmold-road; H. Brodtman, at 22 and 24, Gransden-avenue; H. Brodtman, at 20A, Tudor-grove; Davis & Emanuel, at the Joel Emanuel's Almshouses, Egerton-road; W. E. Park, at 17 to 25, Bartrip-street.

LONDON (LEWISHAM).—Plans passed by B.C.: C. R. Turner, redrainage, 9, Glenton-road; E. G. Hooker, addition, Leahurst-road; George Bulford, addition, 138A, Sydenham-road; W. White, four houses, Wimn-road; Purvis & Purvis, addition, 199, Rushey-green; Geo. Painter & Sons, drainage, 86, Rushey-green; Bromley-hill Court and Ravensbourne Properties, Ltd., Bromley-road, redrainage, Bromley-hill Court, The Turret and Tower Cottage; Edward Procter, Brockley-road, redrainage, St. Cyprian's Church Hall; P. B. Dannatt, two shops, 31, Loampit-vale; E. R. Palmer & Co., two buildings, Ravensbourne-avenue; J. Watt, building at rear of "Park View," Bourneville-road; J. Watt, building rear of 11, Sangley-road; Arthur L. Budd, addition, Victoria Houses, Dacre Park; The Improved Building Construction Co., Ltd., six houses, Chinbrook-road; H. E. Kennard, workshop, 213, High-street, Lewisham; W. T. Sadler, for London County Council, 89 houses, Bellingham Estate; T. W. Stacey, redrainage, 1, 3, 5, 7, 9, and 11, Dillwyn-road; W. A. Gomer, two bungalows, Belmont-grove; W. Reynolds & Co., eight houses, junction of Ashgrove and Coniston-roads; Harry Groves & Son, lock-up shop, 123, High-street, Lewisham.

MAESTEG.—The U.D.C. has accepted an offer of the Margam Estate to sell a 2 acre plot of land for the nominal sum of £50. The land is to be laid out as a park. The surveyor has been instructed to prepare draft schemes for recreation grounds at Garth, Nantyffyllan and Caerau, a park near Maesteg General Hospital, and an open-air swimming bath at Bryant's Pond.

MERTHYR.—At a meeting of the Guardians' sub-committee, the architect submitted his plans of the proposed new offices for the staff, which were approved, and the architect was instructed to submit a new set for submission to the Ministry of Health, and asking for their sanction to proceed with the work. The estimated cost is about £4,000.

MERTHYR TYDFIL.—The Public Works Committee has received a letter from the Ministry of Transport sanctioning expenditure of £49,000 on road widening (Merthyr-Cardiff road); £14,300 for road works at Quaker's-yard; and £5,800 for similar work in the town area. The Ministry offered a 50 per cent. grant subject to work being proceeded with. The Committee has accepted the offer. The Committee further decided to go into the matter of constructing a road from the Filter Beds to Pant. The Committee decided to apply to the Ministry of Transport for sanction to undertake road widening at Pontmorlais. It was stated in respect to this that work would entail whole reconstruction of Morlais Castle Inn premises.

MIRFIELD.—Plan passed by U.D.C.: Bobbin Works, for Messrs. T. Brooke & Sons.

NEWPORT (ISLE OF WIGHT).—Plans approved by T.C.: Shed, Messrs. W. H. Bullock & Son, for Messrs. Wray & Son; garage, South-street, Messrs. W. H. Bullock & Son, for Mr. J. H. Wavell; workshop, Messrs. Stratton & Millgate, for Mr. T. P. Leach; additions to store, Quay-street, for Messrs. Shepard Bros.

NEWPORT, MON.—Notice of motion has been given to move at the next meeting of the B.C. that application be made forthwith for sanction to erect 500 additional houses. The Mayor and Borough Engineer has sub-

* See also our List of Contracts, Competitions, etc

mitted an improvement scheme for the town outskirts to the Public Works Committee.

NEW ROMNEY.—Plans for new houses to be built at Littlestone by Messrs. Ellis Bros., for the Rev. Mr. Woolley and Mr. Paxton-Watson, were passed at the last meeting of the T.C.

OLD KILPATRICK.—Approval for the erection of 54 houses at Old Kilpatrick has been received by the Eastern District Committee of Dumbartonshire C.C. from the Board of Health.

OSSETT.—The T.C. has instructed the secretary to the Education Committee to apply to the Board of Education for sanction to erect a new school at Gawthorpe.—Plans passed by T.C.: Alterations to Wesley House, Wesley-street, for Mrs. A. L. Gray; garage extension, Bank-street, for Mr. A. E. Lloyd.

OTLEY.—The magistrates have considered appeals from over a hundred owners of property against orders made by the U.D.C. to convert the present sanitary conveniences into water closets. The Bench was unable to accept the contention of the District Council that all the existing conveniences were in such a state as to constitute a nuisance or be injurious to public health. In those cases that were not a nuisance, half the cost of conversion would have to be borne by the District Council, who would also have to pay the costs of those appellants. In the other cases, the cost of conversion must be borne by the owners.

OXFORD.—Plans passed by T.C.: The Convent of the Incarnation, additions to Convent in grounds of "Fairacres," Daubeny-road; Miss Biggs, St. Christophers, Parkstone, Dorset, motor garage on north-east side of Hill Top-road; A. S. Hunt, 6, Chadlington-road, conservatory and addition to drawing-room of residence; Oxford Electric Light Co., transformer chamber in garden of "Magdalen Arms" public house, Iffley-road; Miss Bevan, 5, Rawlinson-road, addition to residence; Oxford Electric Light Co., transformer house in gardens of St. John's Hospital.

PAISLEY.—The Dean of Guild Court has approved of plans submitted on behalf of Messrs. Pollock & Cochrane, dyers and finishers, Thrushcraig Works, to make alterations and additions to their present premises. The additions include a new building 95 ft. by 50 ft. to be erected of enforced concrete.

PEMBROKE.—The Town Council has decided to expend £1,000 on improving Front-street.

PEMBROKE DOCK.—A proposal under consideration is that of Messrs. T. W. Ward, Ltd., Sheffield, to build a new ship-breaking yard at Pembroke Dock. The firm has such a yard at Milford Haven.

PENCOED.—An excellent seam of coal has been discovered at Brynna Wood Colliery, Pencoed. The Powell Duffryn Co. is making great developments at Bryncae, between Llanharan and Pencoed, and good seams of coal have been struck. Several houses are in course of erection by the company on the Pencoed and Llanharan road, and the future of the district appears most promising.

PICKERING.—The U.D.C. has approved a number of plans for bungalows.

PLYMOUTH.—Plans passed by T.C.: Mr. A. N. Coles, four houses, Mutley Park-road, 14 houses, Kinross-avenue, and three houses, Bernice-terrace; Mr. F. Crews, addition, 5, Highland-terrace, St. Budeaux; Mr. J. Bone, garage, 10, Compton Park Villas; Mr. A. Wakeham, garage, 8, Queen's-road Villas; Miss Hawke, canopy, Hoe Mansion Hotel, Elliott-street; Mr. E. J. Saunders, footbridge, abutting on Cliff-road, West Hoe.

PONTYPRIDD.—The U.D.C. has decided to give notice to quit to allotment holders on the Ynysyngharad grounds with the view of proceeding in the lay-out of a park, which is to be the town war memorial.

RETFORD.—Plans passed by T.C.: Two houses in Lime Tree-avenue, for Mr. Richmond.

RINGWOOD.—Plans for a bungalow in Broad Shardlane have been approved.

ROTHBURY.—The U.D.C. has passed plans for two houses next to the Post Office.

RYE.—Plans passed by R.D.C.: Four bungalows at Camber, for Mr. G. Kitcher; house at Peasmarsh, for Mr. Dengate; house at Camber, for Mr. Munday; bungalow at Winchelsea, for Mr. A. Eldridge.

SEVERN TUNNEL.—Owing to increased traffic through the Severn Tunnel a contract has been placed by the Great Western Railway Co. for the construction and erection of a new ventilating installation, designed to supply the tunnel with 800,000 cubic ft. of air per minute, with Messrs. Walker Bros. (Wigan), Ltd. This new plant will enable the air of the tunnel to be changed every fifteen minutes.

SOUTH SHIELDS.—Plans passed by T.C.: Messrs. T. A. Page & Son, for Messrs. Mordain, alterations to premises, 148-150 & 152-154, Frederick-street; Mr. Howard Hill, for Mrs. J. E. Wilkes, bakery, 6, Greenlane-crescent, Tyne Dock; Mr. Howard Hill, for Messrs. H. Short & Son, extension to workshop, Alice-street; Mr. J. H. Morton, for the Trustees of Laygate Presbyterian Church, South Shields, new lavatory accommodation at Laygate Presbyterian Church, Frederick-street.

SOWERBY BRIDGE.—The U.D.C. has decided to apply for sanction to borrow £4,000 for the reconstruction of the local baths and laundry, and also to apply to the Unemployment Grants Committee for a grant in aid of the proposed reconstruction scheme.

STAFFORD.—As the result of negotiation with the Lichfield Brewery Co., who are rebuilding the Talbot Hotel, a much-needed street improvement is to be made in Victoria-square.

STRETFORD.—Plans passed by U.D.C.: Two houses, Upper Chorlton-road, &c., for the Artistic Housing Co., Ltd.; shop, Moss-road, for Mr. Ernest Hall; two houses, Auburn-road, for Messrs. Bennett Bros.; Spiritualistic Church, Watson-street, for Mr. Robert T. Jackson; store shed, off Westinghouse-road, for Messrs. W. H. Cowburn & Cowpar, Ltd.; garage, Park-road, for Messrs. D. Anderson & Son, Ltd.; enclosing market, Newton-street, for Mr. Jeremiah Butler.

SWINDON.—Plans passed by T.C.: Messrs. Drew & Sons, houses, Wroughton-road; Mr. E. W. Coslett, alterations, 21, High-street; Messrs. Drew & Sons' additions, New Century Club, Bridge-street; Mr. T. Durham, alterations, 59, Hythe-road; Mr. F. Collard, alterations, 50, Bridge-street; Mr. B. J. Maisey, additions, 7, Hunter's-grove; Mr E. H. Bradley, four houses, Okus-road (extension), and New-road, extensions of Okus-road; Messrs. Drew & Sons, additions, Wroughton-road.

TREDEGAR.—The U.D.C. has adopted a scheme for the erection of additional houses, and will make application for sanction to the Ministry of Health.

WALLASEY.—Plans passed by T.C.: Extension of Gymnasium of the Wallasey District Y.M.C.A., Manor-road, for the Trustees; addition to garage, 184, Poulton-road, for Messrs. J. R. Williams & Sons; garage, "Buena Vista East," Wellington-road, for Mr. H. Pemberton; alterations at "Langroyd," Lansdowne-road, for Mr. C. E. Hancox; washing shed, etc., 47, Brougham-road, for Mr. Redford; workshop, 84, Brighton-street, for Mr. J. Hughes; conversion of dwelling house, "Fairholme," Penkett-road, into two dwelling houses and garage, for Mr. J. C. Plimpton; alterations, 35, Rice-lane, for Mr. D. P. Charlesworth; extension to Mission Church, Brentwood-street, for the Vicar and Wardens of St. Paul's Church of England; shed, Valkyrie-road, for Mr. S. Davenport; dwelling house, Grove-road, for Mr. G. A. Lindley; seven dwelling houses in Claremount-road, for Mr. T. Owen; petrol store, Mainwaring-road, for Mr. R. Williams; additions, Rullerton-road, for Mr. G. H. Woodnorth; additions, Breck-road, for Mr. C. Rippingham; dwelling house in Sudworth-road, for Messrs. Campion and Stoddart; dairy, 17, Liscard Village, for Mr. R. Dugdale; six dwelling-houses in Loretto-road and Harrow-road, for Mr. W. L. Jones; wash house, etc., 4, Churchill-grove, for Mr. J. Guest; additions and alterations, 127, Mount-road, for Messrs. Phillips Brothers; dwelling-house in St. George's Mount, for Mr. E. Davis; dressing rooms adjoining Poulton-road and Winterhey-avenue, for Mr. H. B. Hornby; alterations and extensions, 130, Liscard-road, for Mr. J. Boughey; alterations, 2, Westminster-road, for Mr. S. P. Brick; four dwelling-houses in Seaview-road, for Dr. E. Molyneux.

WEYMOUTH.—Plans passed by T.C.: Mr. T. B. Whinney, F.R.I.B.A., new building at corner of St. Mary-street and Bond-street, for the London Joint City & Midland Bank; Mr. L. R. Gardner, conversion of greenhouse into a garage at "Dune," Buxton-road; Messrs. Jenkins Hitt & Grant, store at rear of Messrs. Burden & Co.'s premises, Custom House Quay; Messrs. Jenkins, Hitt & Grant, alterations and additions at 14, King-street, for Mr. G. Bryer Ash; Messrs. Jenkins, Hitt & Grant, house, Melcombe-avenue; Messrs. Crickmay & Son, additions to X-ray Dept. at the Weymouth and District Hospital; Mr. G. A. Andrews, extension of showroom, 10, Royal-crescent, for Mr. T. Pates; Messrs. Crickmay & Sons, operating theatre, bathroom, &c., Moffat Jouse, Westerhall, for General District Hospital; Messrs. Jesty & Baker, motor garage, "Hillside," Wyke-road, for Colonel Baldwin; Mr. F. Greenaway, detached villa near Fernhill-avenue; Messrs. Bird & Cox, bathroom, &c., 68, Cromwell-road, for Mr. S. File; Mr. A. J. Samways, bungalow in Ullswater-crescent; Mr. V. Stanton, 5, Lansdowne-square, for Mr. Frank Gordon.

WIGTON.—Plans passed by R.D.C.: Bungalow for Mr. E. Hodgson at High Waverbridge; alterations to dwelling-house at High Ireby, for Mrs. Bickerton; addition to cottage at Low Whinnow, for Mr. Lilly, Skipton; bungalow at Baurgh, for Mr. J. Barnes.

WORCESTER.—The County Council has approved of a scheme for obtaining a water supply for Powick Mental Hospital, from the T.C., at a cost of £5,500.

YORK.—Plans passed by T.C.: Haxby-road W.M.C., additions, Penley's Grove-street; Adams Hydraulics, Ltd., additions, Peasholme-green; York Real Estate Co., alterations, Bootham Grange; E. Relton, two houses, 9 and 11, Carrington-avenue; Robinson & Padgett, two houses, Lime-avenue; A. E. Drummond, bay window, 23, Heworth-green; M. Graham, house, Hobgate, Acomb-road; J. H. Hoyland, motor garage, 194, Mount Vale; W. G. Underhay, extension to shop, 13, Gillygate; Mrs. Amos, two bay windows, 82, Monkgate; N.E.R. Swimming Club, extension to bathing-shed, River Bank near Scarborough Bridge; York Northern Union Football Club, stand and dressing rooms, Clarence-street.

YORK.—The Parks Committee has approved a plan submitted by the York Race Committee showing the proposed improvements in the enclosure on the west side of the racecourse on Knavesmire with the elevation of the proposed buildings. The buildings will be constructed of a grit stone of a brown tint.

FIRES.

BLACKLEY.—Two buildings at the works of the British Dyestuffs Corporation have been seriously damaged by fire.

CROUGHTON.—Croughton Church was seriously damaged by fire last week, and it is supposed to be the work of incendiarism. The main fire was in the tower, which was gutted, and the beautiful peal of bells is destroyed. The church was recently restored under the direction of the Rev. J. Willis Price, the rector. It is one of the most interesting churches in South Northants.

DONCASTER.—A fire, which caused considerable damage amounting to between £2,000 and £3,000, occurred last week at Mr. Burley's Army and Navy stores, in Trafford-street.

DUNDEE.—A fire has occurred at the premises in Old Glamis-road of Messrs. Black & MacEwan, firewood manufacturers.

MEXBOROUGH.—A destructive fire has occurred at the Don Glass Bottle Works of Peter Waddington & Sons.

PORT TALBOT.—Fire has occurred in the building yard of Messrs. Morgan, Cox & Sons, builders and contractors, at the rear of Station-road. The premises were almost completely destroyed.

STAMFORD.—Greatford Hall, near Stamford—a mansion built in 1504—was totally destroyed by fire last week. The mansion was built by John Fitzwilliam, an ancestor of the present owner, Major C. C. L. Fitzwilliam.

TRADE NEWS.

We have received a copy of *Safety First*, the journal of the British Industrial "Safety First" Association, which is undoubtedly doing much to minimise accidents in industry.

A booklet relating to Marseilles roofing tiles, the sole selling agents for which are Messrs. Langley London, 161, Borough High Street, S.E.1, has been sent to us.

The National Radiator Company, Ltd., manufacturers of Ideal radiators and boilers, and heating specialities, Hull, have sent us copies of leaflets giving particulars of the various additions to their line of "Ideal" accessories.

Messrs. T. C. Jones & Co., Ltd., iron, metal and machinery merchants, Shepherd's Bush, W.12, have sent us a copy of their new price list dealing with small tools for engineering and general workshops.

From the Swedish Consulate-General in London we have received a copy of a publication entitled "A Book about Sweden," issued by the Swedish Traffic Association. The book deals with the history and politics, industrial conditions, scientific and literary activities, and state of culture in general of the Swedish people, and has an illustrated travellers' guide.

Messrs. Haskins' new factory at Blackhorse-lane, Walthamstow, comprises registered offices and approximately three acres of factory buildings, one acre of which is practically entirely devoted to the making of wood and steel shutters and "Firola" fireproof roller doors. In the new factory about 650 permanent hands are employed, over and above which, a special and technical outside staff are also employed to attend to the necessary fixing of shop fronts, shutters, and other specialities, and also a staff for the decoration of premises.

Messrs. Doulton & Co., Ltd, of Lambeth, have received the order for the sanitary fittings for Bush House, Aldwych, London, W.C. An interesting departure is being made from the usual practice in that no W.C. cisterns are being used, all the W.C.'s being flushed by means of Doulton's new patented "London" flushing valve. This water waste preventing valve is approved by the Metropolitan Water Board; it is noiseless in action, and when the expense of providing and fixing the usual flush and overflow pipes, &c., is eliminated, costs very little more than a good-class cistern.

Messrs. Francis Polden & Co., Ltd., 56, Cannon-street, E.C. 4, have been entrusted with the carrying out of the electrical equipment in connection with the new extension at Olympia. Among other installations being carried out by this Company are the Guardian Assurance Co., London; National Safe Deposit Building, London; Aldwych House, Kingsway; Baldwin House, London; Hook End Farm, Reading; Roffey Park, Horsham; Dr. Barnardo's Homes, Goldings; Panyer House, London; Mill Hill Schools; bacon factory, Elmswell.

"Cafferata" slabs, manufactured by Messrs. Cafferata & Co. (Newark-on-Trent) are formed of pure plaster, reinforced with reeds, and are made in one size only, 3 ft. by 1 ft., and in two thicknesses, 2 in. and 2½ ins. The material gives a plaster base for a plaster face and thus ensures a durable and homogeneous partition. It is claimed to be sanitary, sound-proof, and fire-proof, and to be free from transit breakages. The slabs can be transported and stored without special precautions, and without fear of damage or deterioration. The slabs are tongued and grooved, and present a solid and continuous base, thus securing economy in the priming coat. The slabs are held in position by 3½-in. or 4-in. round wire nails, which are the only accessories required for erection. A brochure recently published by the manufacturers, describes the material and provides evidence, in a series of progressive photographs, of the speed with which it can be erected.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.	£ s. d.
Best Stocks	4 2 0
Second Hard Stocks	3 17 0

Per 1000. Delivered at London Goods Stations.

Flettons, at	£ s. d.		£ s. d.
King's Cross	3 1 0	Best Blue Pressed Staffs.	10 1 6
Do. grooved for plaster	3 3 0	Do. Bullnose	10 11 6
Do. Bullnose	3 16 0	Blue Wire Cuts	8 1 6

Best Stourbridge Fire bricks:—
2½ in. .. .. 11 3 0 | 3 in. 13 2 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers	24 0 0	D'ble Str'tch'rs	32 10 0
		D'ble Headers	29 10 0
		One Side and two Ends	33 10 0
Headers	23 10 0	Two Sides and one End	34 10 0
Quoins, Bullnose and 4½in. Flats	30 10 0	Splays and Squints	32 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.		
Thames Ballast	13 6	per yard,	delivered 2 miles radius Paddington.
Pit Sand	16 0	„ „	
Thames Sand	16 6	„ „	
Best Washed Sand	16 6	„ „	
½ in. Shingle for Ferro-Concrete	14 0	„ „	
¾ in. „ „	15 0	„ „	
½ in. Broken Brick	10 6	„ „	
Pan Breeze	5 6	„ „	

Per ton delivered in London area in full van loads.

Best Portland Cement, British Standard Specification Test £3 3 0 £3 8 6
56/- alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	10 0
Roman Cement	8 15 0
Parian Cement	5 17 0
Keene's Cement, White	5 17 0
„ „ Pink	5 12 0
Plaster, Coarse, Pink	3 10 0
„ „ White	3 17 6
„ Fine	5 12 0
Sirapite, Coarse	3 16 0
„ Finish	4 4 0
Grey Stone Lime	2 16 6
Chalk Lime	2 16 6
Best Ground Blue Lias Lime	2 18 6
Hair	17 0 0
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months, carr. pd.

Stourbridge Fireclay in s'cks 37s. 6d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 1
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	3 4
Do. do. delivered on road wagons at Nine Elms Depot	3 5
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 7
Do. do. delivered on road wagons at above stations, per ft. cube	4 8
White basebed, 3d. per ft. cube extra.	
NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at ——y Goods Station London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super	5 10½
6 in. rubbed two sides, ditto „	6 4½
3 in. sawn two sides slabs (random sizes) „	2 5½
2 in. to 2½ in. sawn one side slabs (random sizes) „	1 6½
1½ in. to 2 in. ditto, ditto „	1 4
HARD YORK— Delivered at any Goods Station London.	
Scappled random blocks ..... Per Ft. Cube	6 0
6 in. sawn two sides landing to sizes (under 40ft. super.) ..... Per Ft. Super	5 4½
6 in. rubbed two sides ditto „	6 0½
4 in. sawn two sides slabs (random sizes) „	2 10
3 in. ditto, ditto „	2 5½
2 in. self-faced random flags .. Per Yard Super	8 4

ARTIFICIAL STONE.

Delivered in London Area in full van loads.	s. d.
Plain	8 6 per ft. cube.
Moulded	10 0 „ „
Cills	11 0 „ „

WOOD.

GOOD BUILDING DEAL.

Inches	per stan.	Inches.	per stan.
4 × 11	£36 0	3 × 6	£22 10
4 × 9	36 0	3 × 11	35 0
4 × 8	30 0	2 × 11	35 0
4 × 7	30 0	3 × 9	35 0
3 × 8	30 0	2½ × 9	30 0
3 × 7	25 0	3 × 4½	20 10
2½ × 7	22 10	3 × 4	20 10

PLANED BOARDS.

1 × 11	42 10	1 × 9	37 10

PLAIN EDGE FLOORING.

Inches	per sq.	Inches	per sq.
⅝	20/-	1½	32/6
¾	22/6	1¾	44/-
1	25/-		

WOOD (*Continued*).

TONGUED AND GROOVED FLOORING.

Inches	per sq.
1	25/-
1¼	32/6
1½	44/-

MATCHINGS (BEST).

Inches	per sq.
⅝	17/6
¾	22/6
1	25/-

BATTENS.

Inches	s. d.
1 × 2	3 0 per 100 ft.

SAWN LATHS.

Per bundle	0 3 9

Dry Wainscot Oak, per ft. super, as inch	0 2 6	to	0 3 0
¼ in. do. do.	0 1 10½	to	0 2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0 2 3	to	0 3 0
Cuba Mahogany	0 3 6	to	0 4 0
Teak (Rangoon, Moulmein or Java), per load	52 10 0	to	55 0 0
American Whitewood planks, per ft. cube	0 16 0	to	0 18 0
Best Scotch Glue, per cwt.	6 15 0	to	—
Liquid Glue, per cwt.	4 7 0	to	5 10 0

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	46 10 0	18 by 10	26 5 0
22 by 12	42 5 0	18 by 9	23 2 6
22 by 11	39 0 0	16 by 10	22 0 0
20 by 12	37 2 6	16 by 8	17 2 6
20 by 10	31 15 0		

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district	6 0 0
Ditto hand-made ditto	6 10 0
Ornamental ditto	6 15 0
Hip and valley tiles (per dozen) { Hand made	0 8 6
Machine made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—	£ s. d.
R. S. Joists, cut and fitted	14 0 0
Plain Compound Girders	16 0 0
„ Stanchions	18 0 0
In Roof Work	21 0 0

WROUGHT IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £15 net value delivered direct from Works. 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes. (all sizes).	Fittings, Up to 2".	Fittings, Over 2".	Flanges. Up to 2".	Flanges. Over 2"
Gas	55 %	50 %	55 %	60 %	65 %
Water	50 %	45 %	50 %	55 %	60 %
Steam	45 %	40 %	45 %	50 %	55 %
Galv'd—					
Gas	45 %	42½ %	47½ %	52½ %	57½ %
Water	37½ %	37½ %	42½ %	47½ %	52½ %
Steam	27½ %	32½ %	37½ %	42½ %	47½ %

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts plain	3 2½	2 5	2 11
2½ in. „ „	3 9½	2 8	3 8
3 in. „ „	4 5½	2 11	4 4
3½ in. „ „	4 10½	3 8	5 1
4 in. „ „	5 5	4 1	5 10

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts, plain	1 10½	1 4½	1 10½
2½ in. „ „	2 1	1 7½	2 5
3 in. „ „	2 6	2 0	3 0
3½ in. „ „	2 11	2 4½	3 6
4 in. „ „	3 5	2 10½	4 3

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd.: 4 in., 5/3. .. 5 in., 6/9. .. 6 in., 8/-.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 0 0	to	14 0 0
Staffordshire Crown Bars - good merchant quality	14 0 0	..	15 0 0
Staffordshire "Marked Bars"	16 0 0	..	17 0 0
Mild Steel Bars	12 0 0	..	13 0 0
Steel Bars, Ferro-Concrete quality, basis price	12 0 0	..	13 0 0
Hoop Iron, basis price	15 0 0	..	16 0 0
„ „ Galvanised	29 0 0	..	31 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	14 0 0	..	15 0 0
„ „ „ 24 g.	15 0 0	..	16 0 0
„ „ „ 26 g.	16 10 0	..	18 10 0
Sheets Flat Best Soft Steel. C.R. & C.A. quality— Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g.	21 0 0	..	22 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g.	22 0 0	..	23 0 0
Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g.	24 0 0	..	26 0 0
Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9ft. 20 g.	20 0 0	..	21 0 0
Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g.	20 10 0	..	21 10 0
Ordinary sizes, 6ft. to 9ft. 26 g.	22 10 0	..	23 10 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker	24 0 0	..	25 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	25 0 0	..	26 0 0
Best Soft Steel Sheets, 26 g.	26 10 0	..	27 10 0
Cut Nails, 3in. to 6in. (under 3in. usual trade extras.)	23 0 0	..	24 0 0

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/4 to 1/7 per foot super.

LEAD, &c.

Delivered in London.	£ s. d.		
LEAD—Sheet, English, 4 lb. and up	34 10 0	..	—
Pipe in coils	35 0 0	..	—
Soil Pipe	37 10 0	..	—
Compo pipe	38 10 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	21 0 0	..	—
Do., ex country, carriage forward per ton	22 0 0	—	—
COPPER— Strong Sheet per lb.	0 2 3	..	—
Thin „ „	0 2 4	..	—
Copper nails „	0 2 3	..	—
Copper wire „	0 2 4	..	—
TIN—English Ingots „	0 1 9	..	—
SOLDER—Plumbers' „	0 0 10	..	—
Tinmen's „	0 1 0	..	—
Blowpipe „	0 1 3	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. fourths	3½d.	32 oz. fourths	8½d.
„ thirds	4½d.	„ thirds	10d.
21 „ fourths	5½d.	Obscured Sheet, 15 oz.	4½d.
„ thirds	6d.	21 „	7d.
26 „ fourths	6½d.	Fluted and Enamelled 15 „	8½d.
„ thirds	7½d.	21 „	10½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
Rolled plate	4½d.
Rough rolled	6d.
Rough rolled	6½d.
Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	9½d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil	in pipes per gallon	0 3 5
„ „ „	in barrels „	0 3 7
„ „ „	in drums „	0 3 10
Boiled „ „	in barrels „	0 3 11
„ „ „	in drums „	0 4 1
Turpentine in barrels	„	0 8 4
„ in drums (10 gall.)	„	0 8 7
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		54 5 0

GENUINE WHITE LEAD PAINT—

		£ s. d.
"Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	75 10 0
Red Lead, Dry (packages extra)	per ton	38 0 0
Best Linseed Oil Putty	per cwt.	0 17 0
Filocol	per cwt.	0 15 6
Size. X D Quality	fkn.	0 3 6

VARNISHES, &c.

	Per gallon. £ s. d.
Oak Varnish ..... Outside	0 14 0
Fine ditto ..... ditto	0 16 0
Fine Copal ..... ditto	0 18 0
Pale Copal ..... ditto	1 0 0
Pale Copal Carriage ..... ditto	1 4 0
Best ditto ..... ditto	1 12 0
Floor Varnish ..... Inside	0 18 0
Fine Pale Paper ..... ditto	0 18 0
Fine Copal Cabinet ..... ditto	1 2 6
Fine Copal flatting ..... ditto	1 0 6
Hard drying Oak ..... ditto	0 18 0
Fine Hard drying Oak ..... ditto	0 19 0
Fine Copal Varnish ..... ditto	1 0 0
Pale ditto ..... ditto	1 2 0
Best ditto ..... ditto	1 12 0
Best Japan Gold Size	0 12 0
Best Black Japan	0 14 0
Oak and Mahogany Stain (water)	0 12 0
Brunswick Black	0 9 0
Berlin Black	0 14 0
Knotting (patent)	1 5 0
French and Brush Polish	1 2 6
Liquid Dryers in Terebine	0 12 6
Cuirass Black Enamel	0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

CURRENT PRICES FOR BUILDING WORK IN LONDON.*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	15	0
Add if in clay	" "	1	6
Add for every additional depth of 6 ft.	" "	0	9
Planking and strutting to trenches	per foot super	0	7
Do. to sides of excavation, including shoring	" "	1	2

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	40	0
Add if in underpinning in short lengths	" "	9	0
Add if in floors 6 in. thick	" "	3	9
Add if in beams	" "	4	6
Add if aggregate 1 : 2 : 4	" "	11	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	3	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	34	0	0
Add if in stocks	"	8	10	0
Add if in Staffordshire blues	"	24	0	0
Add if in Portland cement and sand	"	3	0	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat strucks or weathered joint	" "	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	3
Setting ordinary register grates and stoves	each	1	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	5	5	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	7	6
Three-quarter-inch vertical damp course	" "	11	0
½ inch on flats in two thicknesses	" "	8	6
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	4

MASON.

York stone templates fixed	per foot cube	16	3
York stone sills fixed	" "	28	6
Bath stone and all labour fixed	" "	12	0
Portland stone fixed	" "	21	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	79	9
Do. 20 in. × 10 in. Do. Do.	"	90	9
Do. 24 in. × 12 in. Do. Do.	"	99	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	6	
Do. joists	" "	6	0	
Do. roofs, floors and partitions	" "	6	6	
Do. trusses	" "	8	6	

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	42/-	48/-	56/-	85/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	60	0
Do. to beams	per ft. sup.	1	6
Centres for arches	"	2	0
Gutter boards and bearers	"	1	1

FLOORING.		¾"	1"	1¼"	1½"
Deal edges shot	per sq.		49/-	58/-	67/-
Do. tongued and grooved	"		54/-	65/-	72/-
Do. matchings	"	45/-	55/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/8	2/1	2/3	2/9

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	3
Add for fitting and fixing	" "	0	6
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size	" "	4	0

DOORS.		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/4	2/7	2/9
Four-panel Do.	"	2/8	3/0	3/3
Two-panel moulded both sides	"	3/0	3/3	3/6
Four-panel Do. Do.	"	3/3	3/7	3/10

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/9	1/10	2/1
Deal shelves and bearers	"	1/6	1/8	1/11
Add if cross tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1¼"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1½ in.	per ft. run.	0	9
Mahogany handrail; average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/4
Sash fasteners	11½d.	Mortice locks	5/3
Casement fasteners	1/5	Patent spring hinges and letting in to floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	17	0
Plain compound girders	"	20	0
Do. stanchions	"	23	0
In roof work	"	28	0

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/11	2/4½	3/7	4/-
Ogee Do. Do.	"	2/4½	3/1	3/10	4/9
Rain-water pipes with ears	"	2/9	3/7		
Extra for shoes and bends	each	4/4	5/11		
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	56	0
Do. Do. in flats	"	52	0
Extra labour and solder in coated cesspools	each	7	4
Welt joint	per ft. run.	0	6
Soldered seam	" "	1	10
Copper nailing	" "	0	7

		½"	¾"	1"	1¼"	2"	4"
Drawn lead waste	per ft. run	10d.	1/6	1/9	3/1	3/10	
Do. service	"	1/5	1/11	2/3	3/6		
Do. soil	"						6/2
Bends in lead pipe	each					3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"				14/7	19/6	
Bib cocks and joints	"	6/4	9/7	15/4	41/-		
Stop cocks and joints	"	15/4	17/2	25/8	64/-		

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	9
Do. Do. Sirapite	" "	2	11
Do. Do. Keen's	" "	4	0
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	10
Portland cement screed	" "	2	1
Do. plain face	" "	3	9
Mouldings in plaster	per 1 girth	0	3
One-and-a-half granolithic pavings	per yard sup.	6	4

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	1	1
26 oz. Do.	" "	1	4
Obscured sheet	" "	1	8
⅛ in. rolled plate	" "	1	0
¼ in. rough rolled or cast plate	" "	1	1
¼ in. wired cast plate	" "	1	7

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	1	0
Knotting and priming	" "	0	8
Plain painting 1 coat	" "	0	11
Do. 2 coats	" "	1	7
Do. 3 coats	" "	2	4
Do. 4 coats	" "	3	0
Graining	" "	2	5
Varnishing twice	" "	1	11
Sizing	" "	0	4
Flatting	" "	0	8
Enamel	" "	1	3
Wax polishing	per foot sup.	0	9
French polishing	" "	1	3
Preparing for and hanging paper	per piece	2/- to 4/-	

* These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 14 should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PATENTS.

APPLICATIONS PUBLISHED.*

157,139.—Truscon Steel Co.: Metal building-construction.

160,784.—J. A. Y. Sanchez: Collapsible and detachable furniture.

161,185.—A. S. Buisman: Foundation of structures.

161,962.—Wirebounds Patents Co.: Machines for use in making boxes, crates, and the like.

162,287.—C. C. Lyno: Building of walls, or structures of cement bricks.

164,730.—A. Arent: Fireproofing and/or waterproofing treatment of materials.

165,784.—H. F. Ammon: Process of treating wood.

168,602.—A. C. Matthews: Concrete and like building slabs.

169,685.—Automatic Recording Safe Co.: Locks.

181,611.—G. Hydes: False-grates for kitchen ranges.

181,643.—G. A. Knapp: Metal facing for inside of window openings.

182,144.—E. L. Pease: Radiators for heating buildings.

182,179.—G. A. Faik: Knock-down structures such as tents, boats, tubs, stretchers and ladders.

182,180.—G. E. Luce: Apparatus and process of handling brick during manufacture.

182,185.—G. L. F. Bevan: Baths and basins.

182,205.—Jinks & Morgan Proprietary, Ltd., and A. E. Morgan: Locks and the manufacture thereof.

182,223.—W. J. Morgan, A. J. Stallard, T. Evans and D. Morgan: Means for adjusting casement and other curtains.

182,267.—H. J. Bushen and F. W. Auther: Detachable hinge connection.

182,271.—W. E. Smith and C. E. James: Convertible furniture.

182,278.—K. D. MacKenzie and A. Phillips: Hinged skylight windows, sidelights, and the like.

182,280.—D. Palmer-Jones and Tubular Scaffolding Co., Ltd.: Scaffolding.

182,293.—E. C. Tracy: Means for securing fittings to walls, partitions, or the like.

182,309.—J. Blunn: Mould for making concrete blocks.

182,313.—A. L. Crane: Cement or concrete railway ties or sleepers.

182,318.—W. H. Deakin: Stay for casement and like-hinged windows.

182,345.—W. Kinsey: Roof scaffolding.

182,396.—S. Drake: Domestic fire-grates.

182,821.—A. W. C. Schelff and F. Bradford: Reinforcement for concrete and for similar purposes.

182,880.—C. H. Waghorn: Apparatus for repairing and making roads.

182,900.—G. A. Richardson: Construction of box, case, or the like.

182,975.—R. Zondervan, R. Zondervan and J. Stoederum: Building-blocks.

183,055.—J. W. Taylor, Ltd. (J A Taylor and T. Taylor): Fire-places.

183,065.—W. Dawson: Low-pressure hot-water installations.

183,071.—J. Henderson: Apparatus for moulding walls, columns, and the like *in situ*.

183,096.—H. G. L. Young: Portable planing and like woodworking machines.

183,101.—W. C. Payne: Kitchen ranges.

182,515.—G. B. M. Swifte: Bridges.

182,518.—H. W. Lycett: Latches or locks.

182,520.—J. T. Pickering: Hoisting-appliances.

182,568.—King's Patent Agency, Ltd. (H. E. White and H. F. Philibin): Metal filing-cabinets and like furniture.

182,504.—G. F. Lyon: Process for the artificial maturing or seasoning of wood.

* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.

BARGOED.—For erection of 42 houses in blocks of four and two on the Heolddu site, for the Gellygaer U.D.C. Mr. P. J. Williams, architect, Council Offices, Hengoed:—

Evan James, Ystrad-Mynach ..	£18,551 16
J. M. Broadfoot, Newport	17,240 0
Llew. Thomas, Bargoed	17,226 0
E. J. Davis & Co., Bargoed	16,750 0
*National Building Guild, Blackwood	16,542 0

BOSTON.—For heating the municipal buildings, for the T.C.:—

*Goodacre, Glover & Butler, Nottingham	£655 2 3

BOSTON.—For alterations at lavatories at Assembly Rooms, for the T.C.:—

*F. Darby	£123

BRANDON.—For erection of 20 houses, including mains and sewerwork for remainder of scheme at Waterhouses, for the Brandon U.D.C.:—

*Armstrong & Heward, Esh Winning—20 houses, £400 each, £600 mains and sewers.

CLAYTON, YORKS.—For external painting at the Poor Law Institution, for the Guardians of North Brierley Union. Mr. W. G. Cooper, clerk, 4, Town Hall-street, Bradford:—

Fred. Holdsworth, Shipley	£309

CONSETT.—For additions to warehouse, Hartington-street, for Mr. W. J. Atkinson. Mr. T. W. Barron, architect, 12, Ritson's-road, Blackhill, Co. Durham:—

*R. Gallacher, Blackhill	£947 10

DURHAM.—For erection of motor garage, for the T.C.:—

*Shepherd & Perrin	£340

FAREHAM.—For construction of roads on various housing sites, for the R.D.C.:—

*J. Hunt—Titchfield, Bellfield-road	£2,695
*J. Hunt—Portchester, Newtown....	2,237
*J. Hunt—Crofton, Marks-road.....	1,330
*Crockerell—Sarisbury, Addison-road	1,197

FOCHRIW.—For erection of 12 houses, for the Gellygaer U.D.C. Mr. P. Jones-Williams, architect, Council Offices, Hengoed, Glam:—

Evan James, Hengoed	£5,711 0 0
National Building Guild, Ltd., Cardiff	5,195 12 9
Thos. James, Hengoed	5,172 0 0
R. E. J. Haines & Sons, Cardiff	5,130 0 0
W. H. Lee, Hengoed	4,824 10 0
Edwin Steel, Fochriw	4,621 4 9
Blackburn & Co., Treharris ..	4,548 0 0
Enoch Williams & Sons, Dowlais	4,458 0 0
†E. J. Davis & Co., Bargoed ..	4,223 0 0

†"A" type houses at average price of £334 3s. 8d. each, and "B" type houses at average price of £369 13s. 4d. each.

GELLIGAER.—For construction of 12 houses at Fochriw, for the Gelligaer U.D.C:—

Thomas Jones	£5,711
Nat. Building Guild	5,195
R. E. Haines	5,1 0
W. H. Lee	4,824
Messrs. Steele	4,621
Messrs. Blackburn & Co.	4,548
E. Williams & Sons	4,458
*E. J. Davies & Co.	4,223

GLASGOW.—For painting at the Partick Burgh Hall, for the T.C.:—

*A. Gilchrist & Son	£486 7 10

GLASGOW.—For plastering work for houses at Hamiltonhill, for the T.C.:—

J. McKinlay & Co.....	£8,829 7 8

HASSOCKS.—For erection of villa on the "Firs Estate," for Mr. W. McLean. Mr. A. J. McLean, architect and surveyor, 55, Haywards-road, Haywards Heath:—

W. Wells & Co., Ltd., Plumpton	£1,350
W. R. Saunders, Brighton	1,298
T. E. & J. Muzzell, Haywards Heath..	1,245
Thomas White, Haywards Heath	1,199
†T. & H. Bartlett, Wivelsfield	1,132

LEEDS.—For painting works, for the T.C.:—

*Carter & Frankland, Council Chamber, Law Library	£388 15 6
*L. E. Wilkinson, Crown Court and adjoining rooms	315 4 0
*Dearden Bros., Civil Court and adjoining rooms	346 5 0

LEEDS.—Erection of offices and stores at the new joint depot, for the Sewerage and City Engineer Departments in Bridge-street, for the T.C.:—

*H. C. Bridge.....	£2,721 12 3

LONDON.—Installing electric light at the Hither Green Library, for the Lewisham B.C.:—

Electrical Trades Union, 63, Endwell-road, Brockley	£168 10 0
F. D'Alquen, 4, Sunderland-road, Forest Hill	128 0 0
Haycraft & Son, Ltd., The Broadway, Deptford	115 0 0
*A. J. Hewens, 324, High-street, Lewisham	105 17 0

METROPOLITAN ASYLUMS BOARD.—The following tenders are recommended for acceptance:—

Colindale Hospital:
Installation of telephones—

Victor Engineering and Supply Co., Manchester.....	£1,400 0 0
Commercial Telephone and Electrical Co., Ltd., E.C.	300 0 0
Agar, W. H., E.C.	275 0 0
Electrical Contracts and Maintenance Co., Ltd., Westminster	262 0 0
Lund Bros., & Co., Blackfriars, S.E.	240 0 0
Reliance Telephone Co., Ltd., W.C.....	238 0 0
Thomas, G. H., Yorkshire	220 0 0
Riddle & Goddard, Ltd., Highgate	201 0 0
†Myall Bros., Leigh-on-Sea	187 16 0

Mead Works:
Supply and erection of steel framed building (paint shop)—

Marsden Bros., Gravesend	£900 0 0
Foster Construction Co., Ltd., Plaistow	670 0 0
C. A. & A. W. Haward, W.C.	578 0 0
Armstrongs & Main, Ltd., W.C.	560 0 0
Wright, Anderson & Co., Ltd., Gateshead-on-Tyne	550 0 0
Derham, A. C., Essex.....	550 0 0
Palmer, T. W., & Co., Merton Abbey	543 0 0
Harrison, J., & Co., Camberwell	525 0 0
Harbrow, W., Ltd., S.E.	519 0 0
Dawnay, A. D., & Sons, Ltd., Battersea.....	515 0 0
Structural Engineering Co., Stratford	499 10 0
Williams & Williams, Ltd., Chester	490 10 6
Lysaght, J., Ltd., Bristol.....	470 0 0
Allan, J., Senr., & Son, Ltd., Glasgow	460 0 0
Steel Skeleton Construction Co., Waltham Cross	445 0 0

Mead Works—Foundation and drainage work—

Lilly & Co.	£275 0
F. J. Rashbrook.....	268 0
Chappell Bros.	245 0
H. A. Thomas & Son.....	225 12
T. W. Heath, Ltd.....	198 0
†Jones Bros.	170 0

Southern Hospital—Supply of the ironwork for the roofs of two recreation huts—

Seagers, Ltd.	£260 0
G. J. Garrett & Sons.....	250 0
J. E. Hall, Ltd.....	205 10
†Clark, Hunt & Co., Ltd.....	162 0

Park Hospital—Relaying a portion of the stores yard with tar macadam—

Constable, Hart & Co., Ltd.....	£217 0
Thos. Adams	164 0
J. Wainwright & Co., Ltd.....	132 0
†A. C. W. Hobman & Co., Ltd.	127 0

North-Eastern Hospital—Erection of a partition and the provision of revolving shutters in the recreation hall—

Sage & Co.	£268 0
S. W. Francis & Co.	202 10
Saml. Haskins & Bros.....	184 10
†Dennison, Kett & Co., Ltd.....	174 15

NEWARK.—For erection of a shop and other premises, for the Newark Co-operative Society. Mr. J. Saunders, architect, 4, Spring-gardens, Newark:—

Thornhill Bros., Lincoln.....	£1,018 0 0
John F. Bush, Nottingham.....	700 0 0
S. & R. Horton & Sons, Ltd., Lincoln	698 0 0
F. M. Thompson & Sons, Ltd., Louth	689 0 0
William Smith, Newark.....	663 0 0
G. H. Blighton, Newark.....	636 14 0
Joseph Wright, Newark.....	611 7 6
*G. Brown & Son, Newark.....	610 0 0

NEWPORT.—For the erection of four "A2" and 48 "A3" type houses at Somerton, for the T.C.:—

*King & Co.	£18,348

NEWPORT (MON).—For laying of pipe lines in connection with the Corporation new water storage at Talybont. Total weight of pipes estimated at 21,600 tons. Work divided into contracts:—

Contract 1.—16 miles of line (25 in. to 19 in.) from Talybont to Govilon, with about 11,400 tons weight:—

*Stanton Ironworks Co., Nottingham	£117,313 19 1

Contract 2.—Divided subject to separate agreements being entered into between (*a*) Messrs. Cochrane & Co., Middlesbrough (17th to 23rd mile), £45,483 8s. 4d.; (*b*) Messrs. Jordan, Ltd., Newport (23rd mile to 27th mile), £27,717 13s. 7d.; (*c*) Messrs. Thomas, Spittle, Ltd., Newport (27th to 32nd mile), £28,759 9s. 3d.

OXFORD.—For the erection of six houses in Ferry Hinksey-road, for the T.C.:—

Coppock & Roberts	£3,042
T. H. Kingerlee & Sons	2,947
F. Capel & Sons.....	2,798
*National Building Guild, Ltd. (less a large proportion of any saving effected).....	2,543
E. Organ & Son	2,500

OXFORD.—For repairs to the "Grange," Littlemore, for the T.C.:—

*Coppock & Roberts	£254

PLYMOUTH.—For erection of office accommodation at Milehouse Tramways Depot, for the T.C.:—

*National Building Guild, Ltd. ..	£6,745 5

ROMFORD.—For construction of riverside outfall works at South Hornchurch, for the R.D.C. :—
*W. Jones & Son, Westminster £36,500

SHEFFIELD.—For erection of 57 houses on the Stubbin Estate, for the T.C. :—
*Evans Bros., Alfreton £20,668

SPALDING.—Extension of water mains from Pinchbeck to Mill Green, for the R.D.C. :—
*Walling £2,017

STRETFORD.—For asphalting at Lacy-street cottages, for the U.D.C. :—
*Bethell & Sons £190 9

STRETFORD.—For repaving part of Cornbrook-street, for the U.D.C. :—
*W. Turner (Ardwick), Ltd. . . 3s. 5d. per yard super

WALLASEY.—For the erection of 12 houses on the Mill-lane site, for the T.C. :—
*E. M. & A. J. Bellis ..... £407 per house

WALLASEY.—Supply of two shelters for the Tramways Committee of the T.C. :—
*Foster Bros., Preston..... £287 10 0

WALLASEY.—For installation of waste heat boiler for the Gas Committee of the T.C. :—
Woodall-Duckham Vertical Retort and Oven Construction Co.—£2,007, and for building £476.

WEST HARTLEPOOL.—For erection of memorial monument in Aberdeen grey granite, in Victory-square, for the War Memorial Committee :—
*John Fyfe, Ltd., Aberdeen..... £10,932

WEYMOUTH.—For erection of urinals at Trinity-road, for the T.C. :—

Theo. Conway, Ltd.	340	0	0
J. A. Parsons	£328	0	0
Jesty & Baker.....	324	15	0
A. E. Whettam	319	13	4
*Jenkins, Hitt & Grant	264	0	0

WREXHAM.—For erection and completion of 10 parlour and 12 non-parlour houses, including drains, on Acton Park housing scheme, for the T.C. Messrs. Lockwood, Abercrombie & Saxon, architects, Chester :
*A. H. Woodhouse, Shrewsbury—

10 parlour houses .. ..each	£398	0	
12 non-parlour houses ,,	350	0	
Main drains	160	16	

YORK.—Erection of sub-stations at Acomb and New Earswick, for the T.C. :—
*T. Turner & Sons £238 15

National Federation of Master Painters and Decorators.

A quarterly meeting of the Council of the National Federation of Master Painters and Decorators of England and Wales was held at the Newcastle Town Hall last week, a civic welcome being accorded to the delegates by the Lord Mayor (Ald. R. H. Millican) and Councillor James Lunn (Sheriff) Afterwards the 70 members attending the conference were entertained by the Lord Mayor on behalf of his firm, Messrs. Reed, Millican & Co., Ltd.

NEW COMPANIES.

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

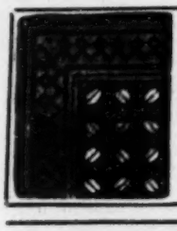
W. D. SMITH, LTD., Avon Lodge, Sawyers Green, Langley, Bucks. (183,046.) Registered July 11. Manufacturing bricks, tiles and similar articles, builders and contractors, merchants and dealers in stone, sand, lime, &c. Nominal capital, £1,000.

RITAGEN, LTD. (183,210.) Registered July 18. Manufacturers and dealers in tin ware, iron ware, enamel, tin and iron and composite metals and materials, sands, cement, plaster, &c. Nominal capital, £500.

SHIP CANAL PORTLAND CEMENT SELLING AGENCY, LTD., The Cement Works, Ellesmere Port, Cheshire. (183,273.) Registered July 20. To buy, sell and deal in cement, carbonate of lime, and building material of all kinds, and the business of sales agents. Nominal capital, £1,000.

W. H. STEEL & Co., LTD. (183,703). Registered August 11. Timber Yard & Joinery Works, High-street South, East Ham, E. 6. Timber merchant and joinery manufacturers and builders. Nominal capital, £500.

THOS. WADE & SONS, LTD. (183,806). Registered August 16. 5, Sandygate, Wath-upon-Dearne, near Rotherham, York. Builders and contractors. Nominal capital, £7,000.


PARQUET & WOOD-BLOCK FLOORING supplied and fixed complete in any locality. PARQUET DANCE FLOORS a speciality.—Send particulars of requirements to
TURPIN'S PARQUET FLOORING CO.,
25 NOTTING HILL GATE, LONDON, W.11.
Phone: PARK 1885

J. GLIKSTEN & SON
LIMITED
Specialities in
SEASONED HARDWOODS
MAHOGANY WALNUT
JAPANESE, AMERICAN and WAINSCOT OAK, TEAK, WHITEWOOD, &c.
REGISTERED OFFICE AND WHARF:
CARPENTERS RD.
STRATFORD
LONDON E.15
Telephone: EAST 377 (5 lines)
Telegrams: GLIKSTEN 'PHONE LONDON.

HIGH-CLASS
FLOORINGS
of every description in
WOOD BLOCKS. PARQUETRY
SEASONED T. & G. WAINSCOT OAK
TEAK AND MAPLE.
FACTORY AND ROADWAY PAVING
STEVENS & ADAMS
LIMITED
VICTORIA MILL, POINT PLEASANT
WANDSWORTH, S.W.18.
(Phones: Putney 1760 & 2457)

Hospital & School Stoves
MAKERS OF
WRIGHT'S IMPROVED and also SHORLAND PATENT WARM AIR VENTILATING PATTERNS.
GEO. WRIGHT (LONDON) LIMITED,
10, Bowman St., Oxford St., London, W.1.
Burton Weir Works, Rotherham.

J. J. ETRIDGE, JR. Ltd
SLATING AND TILING
SLATE MERCHANTS
CONTRACTORS.
Inspections and Reports made on
OLD or FAULTY ROOFS
in any part of the country.
Telephone: Bishopsgate 1944/5, or write.
Bethnal Green Slate Works,
BETHNAL GREEN, LONDON, E.

OGILVIE & CO., Telephone: DALSTON 1888
Many years connected with the late firm of W. H. LASCELLES & Co., of Bunhill Row.
Hildmay Works, Hildmay Avenue, Islington, N.
EXPERTS IN HIGH-CLASS JOINERY.
ALTERNATIONS AND DECORATIONS. ESTIMATES FREE.

FARMER & BRINDLEY LTD.
CARVERS
WORKERS IN
MARBLE ETC.
WESTMINSTER BRIDGE ROAD · LONDON.

HOWELL J. WILLIAMS Ltd.
Builders
High-Class Building
and
Joinery Work
11/17, BERMONDSEY STREET,
Telephone: HOP 202 LONDON BRIDGE, S.E.1
Builders of very many well-known Banks, Office and Business premises. Our works especially convenient for City Building and fittings.